Clean Harbors Services, Inc.
11800 S. Stony Island Ave.
Chicago, IL 60617

EPA ID No. ILD000608471

RCRA Part B License
Request for Permit
April 19, 2003

Volume 2c
Section E

APPENDIX 7

Groundwater Monitoring Enhancements Work Plan Report

Revision 1
3/16/92

SUMMARY REPORT

GROUNDWATER MONITORING ENHANCEMENTS PROGRAM

CWM CHEMICAL SERVICES, INC., CHICAGO INCINERATOR

CHICAGO, ILLINOIS

Under Contract With
CWM Chemical Services, Inc.
Chicago Incinerator
11700 S. Stony Island Avenue
Chicago, IL 60617

Prepared By:

SEC Donohue
3001 Butterfield Road
Oak Brook, IL 605211

Summary Report

CWM Chemical Services, Inc., Chicago Incinerator

Groundwater Monitoring Enhancements

This summary report documents the activities conducted by SEC Donohue under the CWM Chemical Services, Inc. (CWMCS) Groundwater Monitoring Enhancements program. SEC Donohue was contracted by CWMCS to install one groundwater monitoring well and three Hydropunch II samplers.

SEC Donohue contracted K&S Testing and Engineering (K&S) to perform drilling services at the Chicago Incinerator (Site). Work began at the Site on December 18, 1991. A safety meeting was held prior to beginning work. Personnel on site included: Lisa Grassl (CWMCS), Sarah Joyner (SEC Donohue), Mark Henderson (K&S), Mike Rich (K&S) and Gino Bruni (Illinois Environmental Protection Agency).

At approximately 12:00 pm, K&S set up at the Well G126S location as specified in the Groundwater Monitoring Enhancements Work Plan. A Diedrich 120 (D-120) drill rig was used with 3 1/4 inch hollow stem augers. Soil samples were collected continuously with a 2-inch split-spoon sampler. Sarah Joyner monitored the driller's breathing zone with a 10.2 Microtip photoionization detector (PID). Concentrations in the driller's breathing zone remained at between 1-3 ppm. All drilling work was performed in Level D protection. The soil cuttings from the borehole were placed in DOT approved 55-gallon drums and staged near the borehole.

The PID was also used to screen the split-spoon samples as they were retrieved. The highest concentration detected by the PID was 20 ppm from the soil sample collected at 6 to 8 feet below ground surface (BGS). During the borehole drilling, fill material was encountered from ground surface to approximately 16 feet BGS. The fill was variable, consisting of silty sand and ashy material, concrete, and coarse sandy material. From 16 feet to the bottom of the borehole (18 feet BGS) there was native soil - stiff grey silty clay.

The bottom of the borehole was drilled to 18 feet, but the last split-spoon was advanced from 18 to 20 feet. The soil borehole log for G126S is Attachment A.

At approximately 4:00 pm on December 18, 1991, K&S completed the borehole for well G126S. Upon completion of the borehole, K&S changed from 3 1/4 inch augers to 4 1/4 inch inner diameter augers. The 4 1/4 inch augers were used to enlarge the borehole prior to installing the monitoring well. The enlarged borehole was drilled down to 15 feet BGS. A tape measure was dropped to the bottom of the hole and K&S determined that the original borehole made with 3 1/4 inch augers had collapsed from 15 feet to 18 feet. Therefore, a 15 foot deep .67 foot diameter borehole remained.

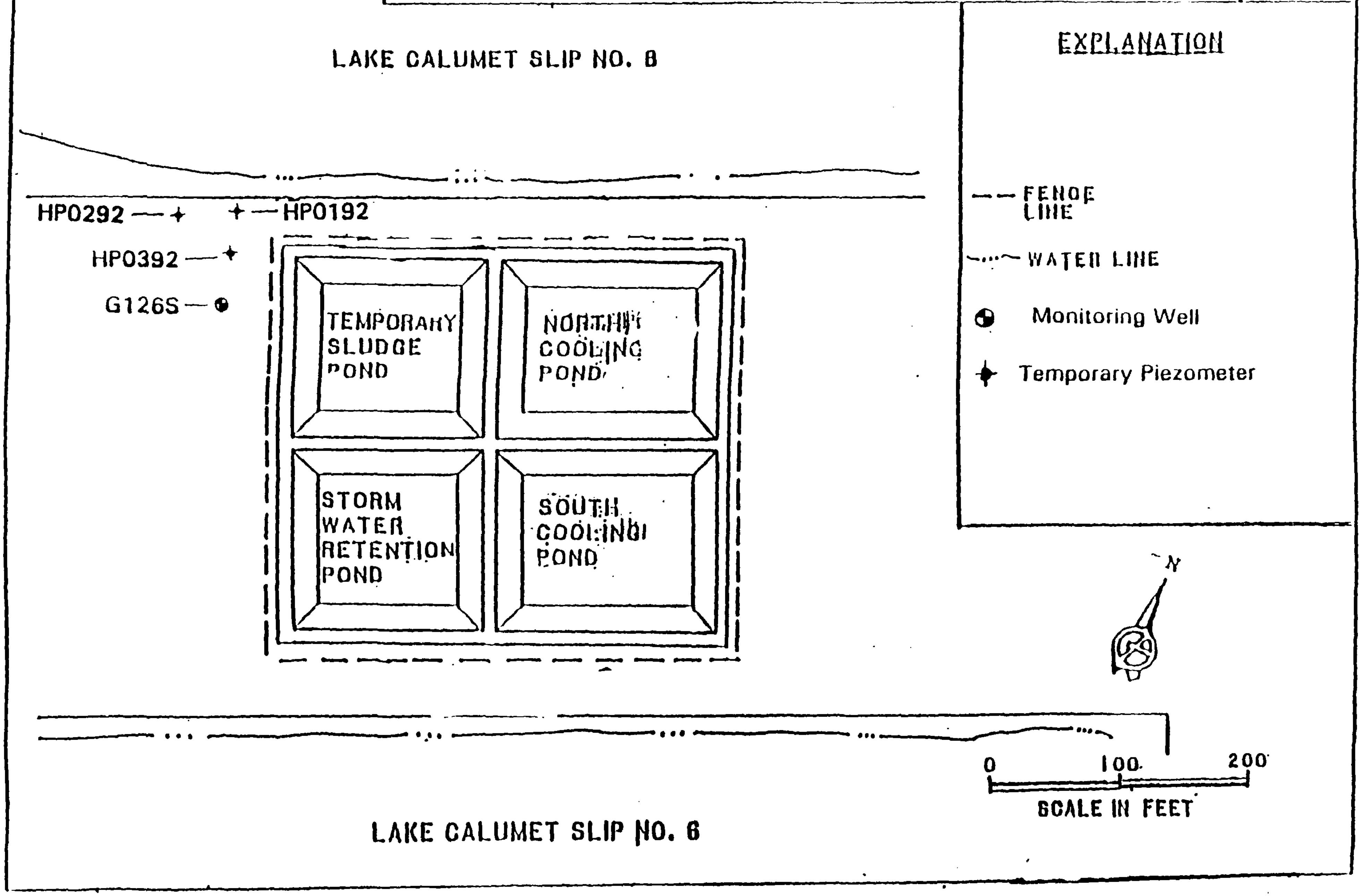
Schedule 316 stainless steel (SS) well construction materials were used for well construction. A 5 foot long 0.010 slotted screen with a flush joint cap was installed from 10 to 15 feet BGS. The riser casing extends from 10 feet BGS to 2.64' above ground surface. The filter pack consists of Number 5 Torpedo sand and extends from 15 feet BGS to 8 feet. A 3-foot bentonite seal was installed above the filter pack, using bentonite pellets. On December 18, the drillers only had enough bentonite pellets to complete 1 foot of the 3 foot bentonite seal. Therefore, K&S and SEC Donohue left the Site at 5:00 p.m.

K&S returned to the Site on December 19 with enough bentonite to complete the seal, and the bentonite seal was completed up to 5 feet BGS. A 6 inch sand layer was placed on top of the bentonite seal. The annulus was then grouted from 4.5 feet BGS to the ground surface using a portland cement bentonite powder slurry mix.

While the grout seal was setting, K&S and SEC Donohue drilled three pilot borings for the Hydropunch II to facilitate the placing of the Hydropunch II samplers in the Sites' thick fill. The locations for the three pilot holes were as specified in the Groundwater Monitoring Enhancements Work Plan. K&S drilled each hole to approximately 10 feet BGS. The holes were then back-filled with pea gravel in order to keep them from collapsing. The cuttings from the pilot holes were drummed and staged with the other soil cuttings.

The pilot hole drilling activity was completed by 12:00. K&S and SEC Donohue then installed the aluminum well cover over well G126S, and a concrete well pad was built. K&S and SEC Donohue left the Site by 2:00 p.m.

Sarah Joyner from SEC Donohue returned to the Site on January 2, 1992 with Andy and George Strutynsky of Stratigraphics to install temporary piezometers. The temporary piezometers were a modification to Sirrine's scope of work which specified the installation of Hydropunch II Samples. The temporary piezometers used were based conceptually on the Hydropunch II. Stratigraphics used its 20-ton, truck mounted cone penetrometer system to install the temporary piezometers. The piezometers were made of 1 1/4 inch (outer diameter), 0.010 slot PVC screen with PVC risers. After installation, the temporary piezometers were sampled by personnel from Weston-Gulf Coast Laboratories using a PVC bailer. When the sampling activities were complete, the temporary piezometers were abandoned by removing the PVC screen and risers and sealing the open holes with bentonite grout. At location HP0392 the PVC risers could not be retrieved, and were grouted in place. The approximate locations of the temporary piezometers are shown on Figure 1. The procedures for installing the temporary piezometers are discussed in more detail in a letter report dated January 6, 1992, from Stratigraphics to Sarah Joyner (Attachment B).

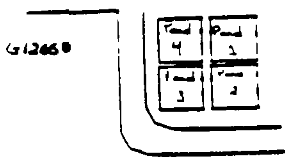


Location Of Temporary Piezometers And Monitoring Well G126S

Figure 1

SOIL BOREHOLE LOG

SITE NAME AND LOCATION CWM Chemical Services, Inc. Chicago Incinerator Well G126S	DRILLING METHOD: Used 3-1/4 inch hollow stem auger for drilling & sampling - 4-1/4 inch HSA to install monitoring well	BORING NO. G126S
	SAMPLING METHOD: Continuous split spoon	SHEET 1 OF 3



WATER LEVEL	8.21 TOC				DRILLING		
TIME	0930				START TIME 1200	FINISH TIME 1600
DATE	12/19/91				START DATE 12/18/91	FINISH DATE 12/18/91
CASING DEPTH	15 ft					

DATUM Grade ELEVATION

DRILL RIG Diedrich 120	SURFACE CONDITIONS
ANGLE Vertical Bearing N/A	Gravel Area
SAMPLE HAMMER TORQUE FT-LBS.	

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NO.	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER & BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS Q.
0–1				Surface - compressed gravel Drilled to 1 foot below ground surface. - Fill -								
1–2	16 23 <50		S1	Clayey Silt (ML) Gray to black. Stiff, dry silt with some pebbles (2 cm) at the bottom. Encountered split spoon refusal 2'6" (cement) - Fill -								
3–4				Drilled down to 4' without sampling. - Fill -								
4–5	14 9			Gravelly Sand (SW) Greenish well graded coarse sand to gravel, moist.								
5–6	20 31		S2	Silty Sand (SM) Black, ashy sand with some wood chips and red brick fragments. - Fill -								
6–	20 25		S3	Silty Sand (SM) Top 12" (to 6'10") same black ashy sand as above.								
	>50			Gravelly Sand (SW) Greenish well graded coarse sand to gravel, moist. - Fill -								

DRILLING CONTR K&S Testing & Engineering - M. Henderson

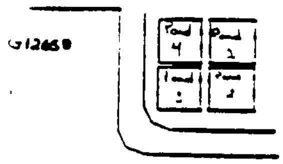
SL 19951

LOGGED BY S. Joyner

DATE 12/18/91 CHK'D BY M. Waxali

SOIL BOREHOLE LOG

SITE NAME AND LOCATION CWM Chemical Services, Inc. Chicago Incinerator Well G126S	DRILLING METHOD: Used 3-1/4 inch bollow stem auger for drilling & sampling - 4-1/4 inch HSA to install monitoring well	BORING NO. G126S
	SAMPLING METHOD: Continuous split spoon	SHEET 2 OF 3



DRILLING START	FINISH
TIME 1200	TIME 1600
DATE 12/18/91	DATE 12/18/91

WATER LEVEL	8.21 TOC				
TIME	0930				
DATE	12/19/91				
CASING DEPTH	15 FT				

DATUM Grade ELEVATION

DRILL RIG Diedrich 120

ANGLE Vertical Bearing N/A

SAMPLE HAMMER TORQUE FT-LBS.

SURFACE CONDITIONS
Gravel Area

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NO.	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER & BIT	CASING TYPE	BLOWS/FOOT ON CASING	WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS Q.
			S3	- Fill -								
8				Cement Fragments								
	4 3		S4	Gravelly Sand (SW) Greenish blue well graded coarse sand to gravel.								
10	4 4			Sandy Silt (ML) Black moist to wet silt, some fine sand. - Fill -								
	3 4 35		S5	Sandy Silt (ML) Same as 9-10' with some coarse sand and trace gravel.								
12	17			Gravelly Sand (SP) Brown-black well graded sand with gravel. - Fill -								
13 14	6 6 85 13		S6	Gravelly Sand (SP) Same as 11.5'-12'. Well graded black, wet sandy-silt, some gravel. - Fill -								
15	4 3		S7	No recovery - Split spoon blocked by 1.5" gravel. - Fill -								

DRILLING CONTR K&S Testing & Engineering - M. Henderson

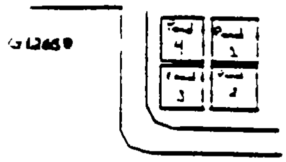
SL 19951

LOGGED BY S. Joyner

DATE 12/18/91 CHK'D BY M. Waxali

SOIL BOREHOLE LOG

SITE NAME AND LOCATION	DRILLING METHOD: Used 3-1/4 inch hollow stem auger for drilling & sampling - 4-1/4 inch HSA to install monitoring well	BORING NO. G126S
CWM Chemical Services, Inc. Chicago Incinerator Well G126S	SAMPLING METHOD: Continuous split spoon	SHEET 3 OF 3



					DRILLING START	DRILLING FINISH
WATER LEVEL	8.21 TOC				TIME 1200	TIME 1600
TIME	0930					
DATE	12/19/91				DATE 12/18/91	DATE 12/18/91
CASING DEPTH	15 ft					

DATUM Grade ELEVATION

DRILL RIG Diedrich 120	SURFACE CONDITIONS
ANGLE Vertical Bearing N/A	Gravel Area
SAMPLE HAMMER TORQUE FT-LBS.	

DEPTH IN FEET (ELEVATION)	BLOWS/6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NO.	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER & BIT	CASING TYPE	BLOWS/FOOT ON CASING	TEST RESULTS: WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS Q_u
	4		S7	- Fill -								
16	5											
	2		S8	Sandy Silt (ML) Black to olive sandy silt.								
17	2											
	7			Silty Clay (CL) Gray silty clay, some coarse sand, stiff.								
18	12											
	4		S9	Silty Clay (CL) Same silty gray clay as S8.								
19	6											
	9											
20	13											
				End of boring. Drilled to 18' split spoon to 20'.								

DRILLING CONTR K&S Testing & Engineering - M. Henderson

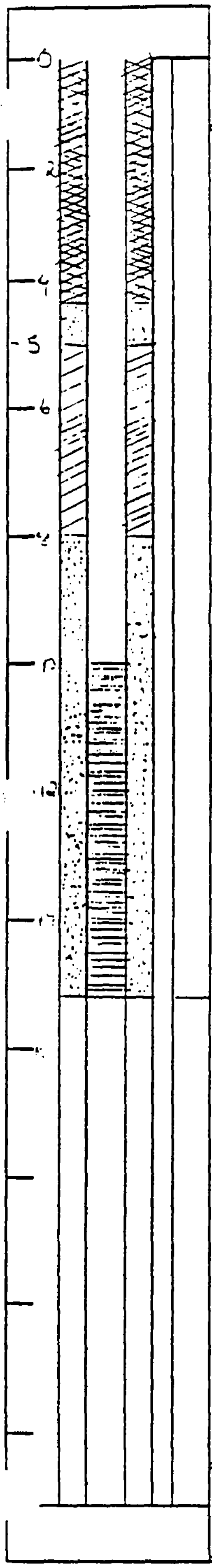
LOGGED BY S. Joyner

DATE 12/18/91 CHK'D BY M. Waxali

SL 19951

Well No. G126S
Boring No. X-Ref. G126S

MONITOR WELL CONSTRUCTION SUMMARY



Survey Coords: ______________________

Elevation Ground Level ______
Top of Casing ______

Drilling Summary:

Total Depth 18 feet
Borehole Diameter .67 feet (4-1/4 HSA)
Casing Stick-Up Height 2.64 feet
Driller Mark Henderson
Mike Rich
K&S Testing & Engineering
Rig Diedrich 120 (D120)
Bit(s) Carbide Tooth

Drilling Fluid N/A

Protective Casing 6" Aluminum Cover

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling				
K&S Testing	12/18	1200	12/18	1600
SEC Donohue				
Continuous SS				
Geophys.Logging:				
Casing:				
Filter Placement:	12/18/91	1600	12/19	0915
Cementing:	12/19/91	1000	12/19	1040
Development:	1/2/92	1415	1/2/92	1545

Well Design & Specifications:

Basis: Geologic Log X Geophysical Log __

Casing String(s): C=Casing S=Screen

Depth	String(s)	Elevation
G.S. - 10 ft	C1	-
10 ft - 15 ft	S1	-
-		-
-		-
-		-

Casing: C1 2.0 inch (316) S.S. Riser
flush joint

C2 ______

Screen: S1 2.0 inch (316) S.S. .010 slot screen
flush joint cap

S2 ______

Filter Pack: Number 5 Torpedo Sand
3.5 bags (15 ft to 8 ft)

Grout Seal: 1/4 inch non-coated pellets - 1.5 buckets
(8 ft to 5 ft)

Sand Seal #5 Torpedo Sand (5 ft to 4.5 ft)

Bentonite Seal: ______

Well Development:

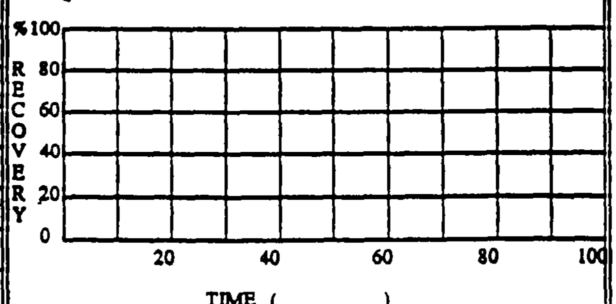
Dedicated S.S. Bailer = 1.5 hours
Total Gallons Purged: 18.0
Casing Volume: 1.11

Stabilization Test Data:

Time	pH	Spec. Cond.	Temp (C)
1425	9.31	11,580	11.0
1442	9.14	11,530	10.8
1505	9.26	11,550	10.3
1525	9.30	11,600	10.5
1542	9.39	11,650	10.6

Recovery Data:

Q = S =



Comments: Placed 1 ft of the bentonite seal over the filter pack of 12/18/92. The drillers were out of pellets so the remaining bentonite seal was placed on 12/19/91.

SITE NAME CWM Chemical Services, Inc. Chicago Incinerator
LOCATION Chicago, IL
WC 8814
SUPERVISED BY S. Joyner
DATE 1/3/92

STRATIGRAPHICS, The Geotechnical Data Acquisition Corporation

439 Taylor Avenue, Glen Ellyn, Illinois 60137 (708) 790-4610

Sarah Joyner
Sirrine Environmental Consultants, Inc.
3001 Butterfield Rd.
Oakbrook, Illinois 60521

January 6, 1992

Dear Sarah:

This letter report provides details of the installation of temporary piezometers at the Chemical Waste Management, Chicago Incinerator site. STRATIGRAPHICS used its 20 ton, truck mounted penetrometer system to install 3 temporary piezometers at the site on January 2 and 3, 1992, under the direction of Sirrine personnel. Temporary piezometers were installed to allow sampling of ground water at the site by personnel from Weston-Gulf Coast Laboratories. Installation details are provided on the attached figures.

In general, the procedure to install the temporary piezometers was as follows:

1. The penetrometer truck was set up at a location, and a prepunch tool was used to penetrate through surficial, random fill. The fill includes various obstructions, such as concrete slabs, so several attempts were typically required to reach target depths below the random fill. Predrilling of the fill, using a hollow stem auger rig, proved only partially successful, as large particles apparently caved into the bottom of the predrilled hole, prior to its being backfilled with pea gravel. These obstructions prevented passage of penetrometer tools.

2. After prepunching, BQ outer casing (2.31" OD, 1.81" ID) was pushed to the target depth of about 15 ft. The end of the outer casing was sealed with a slip-on PVC cap to prevent soil from entering the casing.

3. After the outer casing was pushed to the required depth, 1 1/4 inch (1.66" OD, 1.38" ID) PVC well screen and risers were lowered down the casing to the PVC cap. The outer casing was then withdrawn, leaving the PVC screen and risers downhole.

4. After a period of time, the water level in the temporary piezometer was measured by Sirrine. The piezometer was then sampled by personnel from Weston-Gulf Coast Laboratories, using a bailer.

5. After completion of sampling, the temporary piezometers were abandoned by sealing all open hole using a bentonite grout. The PVC screen and risers were removed where possible.

All downhole equipment was steam cleaned prior to deployment, and in between holes. Temporary piezometers were installed during the afternoon of January 2, and on the morning of January 3, 1992. The temporary piezometers were abandoned during the afternoon of January 3, 1992. Prior to abandonment, an inertial pump was deployed in one of the piezometers for evaluation purposes. The pump performed well, and should prove useful in improving sample quality while decreasing ground water sampling costs during future projects.

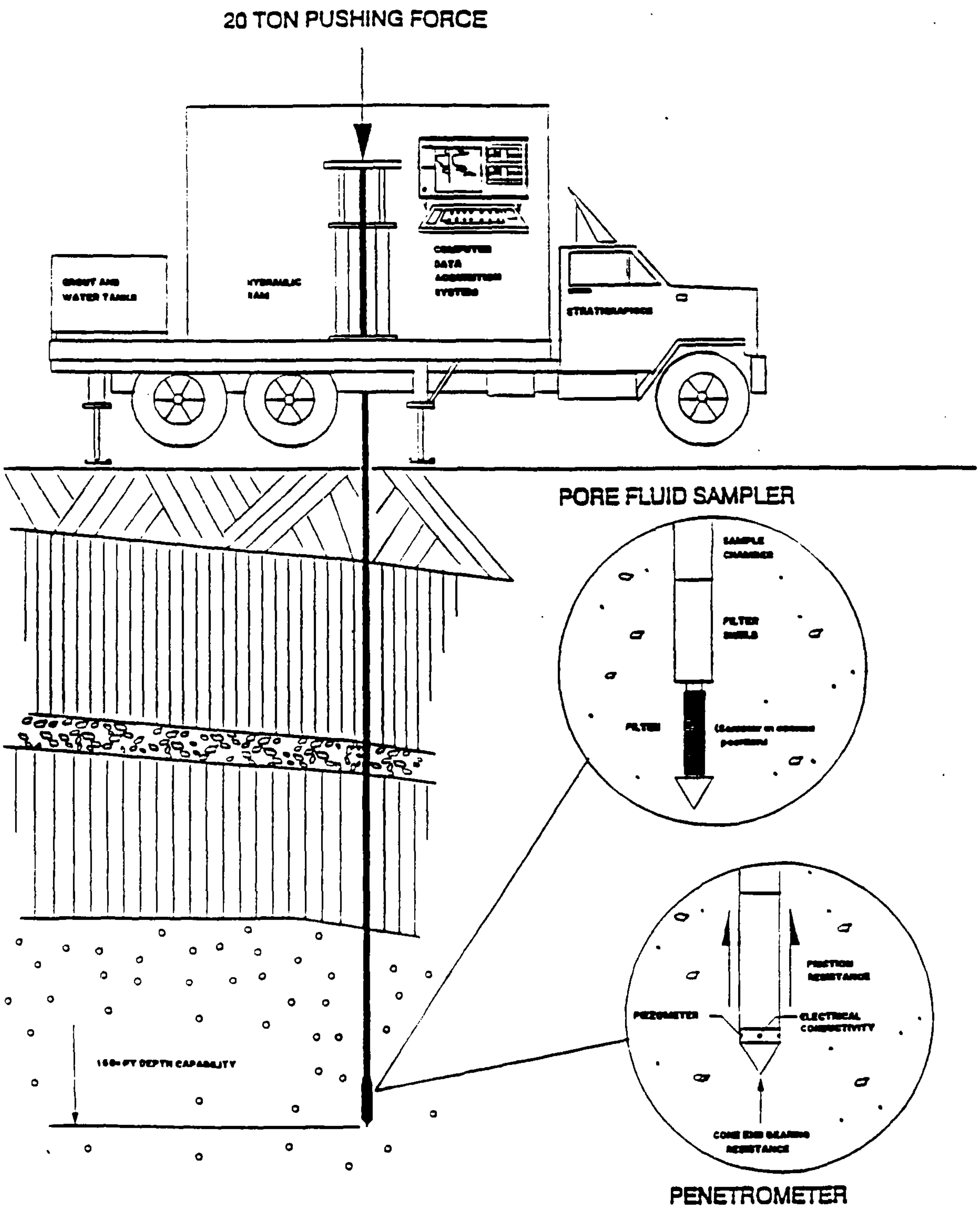
We have enjoyed providing assistance to Sirrine Environmental Consultants on this project. If you have any questions regarding this work, or on other applications of penetrometer technologies to your projects, do not hesitate to call.

Regards,

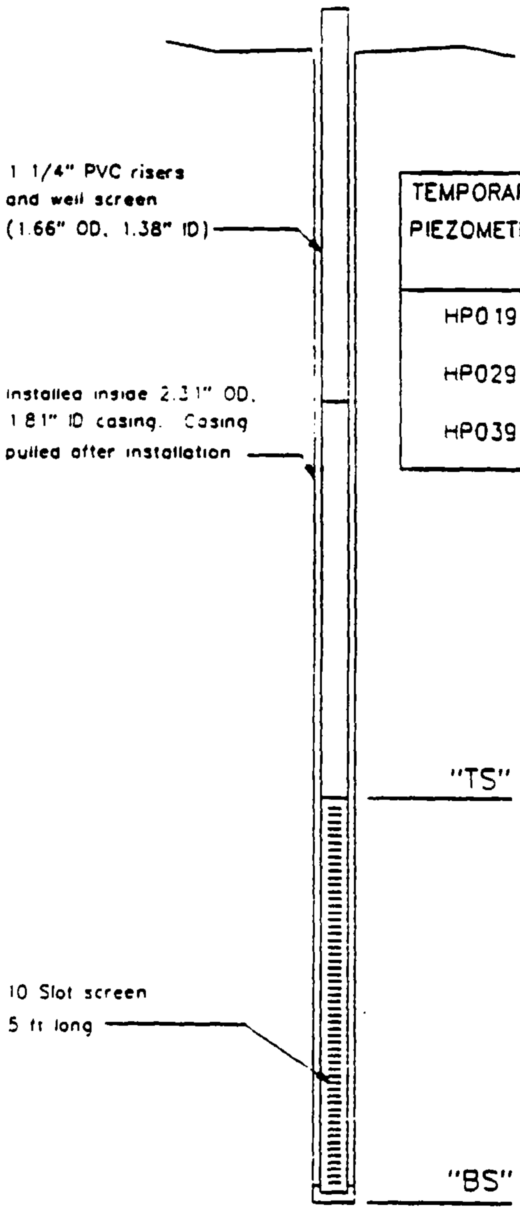
Andrew Strutynsky

Andrew I. Strutynsky, P.E.
Technical Director

AIS/olb R92010.let



PENETROMETER SUBSURFACE EXPLORATION SYSTEM
STRATIGRAPHICS



TEMPORARY PIEZOMETER	"TS" DEPTH TO TOP OF SCREEN, FT	"BS" DEPTH TO BOTTOM OF SCREEN, FT	DATE OF INSTALLATION
HP0192	9.7	14.7	01/03/92
HP0292	9.7	14.7	01/02/92
HP0392	9.3	14.3	01/03/92

All temporary piezometers sampled on 01/03/92 by Weston Gulf Coast personnel. Piezometers abandoned after sampling, by removal and filling of open hole by bentonite grout. Risers of HP0392 could not be retrieved, and were filled with bentonite grout.

STRATIGRAPHICS

TEMPORARY PIEZOMETER
INSTALLATION DETAILS
CHICAGO INCINERATOR

APPENDIX E-8

SURFACE IMPOUNDMENT "NO LIQUID MIGRATION" INFORMATION, EXCERPTED FROM APPROVED SURFACE IMPOUNDMENT CLOSURE PLAN AND PROFESSIONAL ENGINEER CERTIFICATION REPORT

CHICAGO INCINERATOR FACILITY

SURFACE IMPOUNDMENTS

INTERIM STATUS CLOSURE PLAN

PREPARED FOR:

CWM CHEMICAL SERVICES, INC.

11700 S. STONY ISLAND AVENUE

CHICAGO, ILLINOIS

PREPARED BY:

SEC DONOHUE

3001 BUTTERFIELD ROAD

OAK BROOK, ILLINOIS

REVISION 1

JULY 16, 1992

Closure Plan

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

CWM Chemical Services, Inc.

ILD000672121

Chicago Incinerator

Kurt R. Frey

Signature of Owner/Operator

Kurt Frey - General Manager

CWM Chemical Services, Inc.

Name and Title

7/15/92

Date

Revised 7/16/92

TABLE OF CONTENTS

APPENDICES

FIGURES

TABLES

7.0 CLOSURE PROCEDURES

The impoundments will be closed in a manner pursuant to 35 IAC 725.328, requiring that:

1. The impoundments will be dewatered to eliminate free liquids. The liquid will be pumped into the Phase IV process water storage tanks sump.

2. The solidification of the sludges will result in a solid mass of sufficient load bearing capacity to support a final cover.

3. The final cover has been designed to be constructed to:

   - Provide long-term minimization of the migration of liquids through the closed impoundment;
   - Function with minimum maintenance;
   - Promote drainage and minimize erosion or abrasion of the cover;
   - Accommodate settling and subsidence so that the cover's integrity is maintained; and
   - Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

This section provides the general details for the closure procedures. Technical specifications for these activities are provided in the Construction Specification document (Appendix H). The procedures for ensuring Quality Control during construction are provided in the Construction Quality Assurance Plan (CQAP) document (Appendix G). All construction activities for earthwork and the solidified material and for the installation of the various geosynthetic components of the cap will be monitored by the CQA Consultant. Construction Drawings are provided in Appendix I.

Before construction activities begin, the Contractor(s) will submit for approval by CWMCS a site specific Health and Safety Plan and demonstrate compliance with 29 CFR 1910.120. The Health and Safety Plan will, at a minimum, comply with the requirements of the existing Incinerator Health and Safety Plan.

7.1 Site Preparation

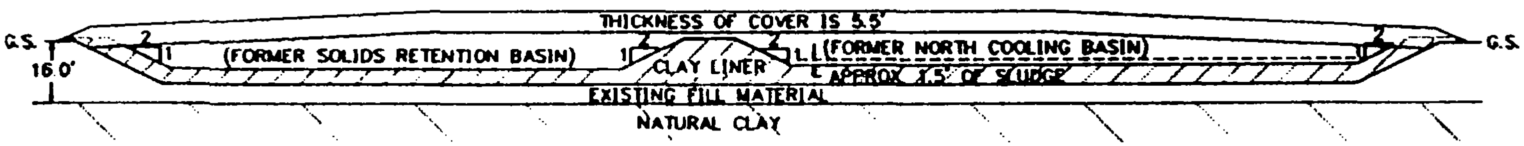
The first stage of closure will be the construction of the support facilities such as decontamination zone, material handling and stockpile areas, and ramp. Figure 7-1 indicates the location of each of these items.

7.1.1 Decontamination Facilities

Personnel decontamination procedures are required to be prepared by the contractor and approved by CWM prior to the start of closure activities.

A decontamination pad for equipment used to perform closure activities will be located near the surface impoundments to limit the travel of "contaminated" equipment. Decontamination will take place on a concrete pad placed on compacted select fill. The decontamination pad is described in the Construction Specifications and is shown on Drawing M1695-~~C08~~ -C06 of the Construction Drawings.

The decontamination pad base will be sloped to a sump to drain accumulated wash water. The dimensions of the decontamination pad will be such that approximately 10 feet of pad will exist in every dimension from the largest piece of equipment on the pad to collect any overspray resulting from decontamination.



1/6 FINAL CROSS-SECTION

CROSS-SECTION (EAST TO WEST)
THROUGH FORMER SOLIDS RETENTION
BASIN AND FORMER NORTH COOLING BASIN.

NOTES

DR. R. KERLIN	DATE 02/28/92
DSGN. K. CHIRBAS	SEC FILE NUMBER
CK. K. CHIRBAS	
DPE V RULE	JOB NO. M1695
CAD FILE NO. FIG72	

SEC DONOHUE
Oak Brook, IL

CWM Chemical Services, Inc.
Chicago Incinerator
Chicago, IL 60617

DRAWING TITLE

FINAL
CROSS-SECTION

CLIENT DRAWING NUMBER

SEC DRAWING NUMBER

Decontamination will consist of scraping visible soil and sludge from equipment (as necessary), steam or pressure cleaning, followed by a triple rinse. At a minimum, equipment will be decontaminated following completion of fill placement over the exclusion zone. When equipment leaves the impoundment working zone, decontamination will be followed with a wipe sample to be analyzed for PCB's. Decontamination will continue until the wipe indicates less than 100 ug/100 cm^2. The equipment will remain on-site during analysis of the wipe tests.

Accumulated decontamination water will be removed, prefiltered, and discharged to the facility's Phase IV tanks (Item 9 on Figure 2-4A). The water treatment will include:

- Water clarification in a pressure sand filter.
- Organics removal through carbon adsorption.
- Effluent is discharged in accordance with ordinance limits established by the POTW

A copy of the permits providing technology and capacity information is provided in Appendix J.

After placement of the structural fill, the decontamination pad will be decontaminated and left in place.

7.1.2 Stockpiles

Soil materials for backfilling will be stockpiled in the area to the west of the impoundments. The stockpile will be protected in a manner to minimize wind and water erosion and unnecessary compaction. Surface runon will be diverted away from the stockpile by use of a silt fence.

7.2 Impoundment Draining

The next stage of closure will be the removal of water from the impoundments by pumping to the Phase IV tank farm sump for treatment. Temporary pumps and hoses will be used to achieve this. In addition, flexible hoses will be provided with secondary containment by placing PVC piping around the flexible hose line. This pipe within a pipe design will contain any leaks in these hoses should they occur. The pump suction will be made to float on the surface of the water to minimize solids intake. The water will then be filtered so that less than 40 ppm TSS is introduced to the Phase IV tank farm sump. Water that remains in the east Cooling Basins after this step will be absorbed upon the addition of the Portland cement.

Following the draining of the impoundments, a surface soil sample will be collected at each place along the PVC line where visible leaks or spills have occurred. These samples will be tested for TCLP metals and organics using SW846 methods 8240 and 8270. This sampling will be performed after decontamination of the decontamination pad and containment of rainfall is no longer necessary.

7.3 Ramps

Access ramps between each adjacent impoundment will be constructed after the decontamination pad is operational to allow constuuction traffic access between the four impoundments. These ramps will be constructed to direct all runoff to flow into the impoundments.

7.4 Piping

Underground piping will be removed from the surface impoundment area. Original drawings of the impoundments (Construction Drawing C01, Appendix I) show that piping interconnects the basins as follows:

- the Northeast and Southeast Basin
- the Southeast Basin and Stormwater Basin
- the Solids Retention Basin and Stormwater Basin

The presence of these pipes will be verified. If present, these pipes will be pulled from the berms, decontaminated and disposed offsite. Decontamination will consist of scraping visible soil and sludge from piping (as necessary), steam or pressure cleaning, followed by a triple rinse.

Three additional pipes have been indicated on a past survey (1985) (Drawing C01) of the southeast Cooling Basin. These pipes will be removed up to the above ground piperack west of the Phase IV tank farm and will be decontaminated and disposed off site. Any piping that continues beyond the fence to the east, will be capped and left in place.

Since 1984, the process water was delivered to the Cooling Basins through above ground piping. This piping and an associated pumphouse will be decommissioned and removed as a separate activity before the impoundment closure activities begin.

When initially constructed, Cooling Basins 1 & 2 were serviced by underground lines: a 14-inch Fiberglass Reinforced Plastic (FRP) line and a 12-inch carbon steel line. The FRP line carried water to the basins and the 12-inch carbon steel line returned process water back to the air pollution control system. In 1984, leaks were discovered in the FRP line during a routine inspection. When the leak was discovered, the line was removed from service. The areas of leakage were visible on the surface because the heated water was venting steam through the soil. Soil was excavated in a 25 foot radius around the leak area to expose the pipe. The soil was disposed of as a hazardous waste at a permitted landfill. Groundwater in the area of the leak was pumped from the excavation for 2 or 3 days while pipe repairs took place. The recovered groundwater was used as process water. The FRP pipe was eventually replaced with an above ground pipe. The underground FRP pipe was flushed with water to remove any contamination. No confirmatory sampling was performed after flushing to confirm decontamination. Initiating a sampling program at present is unlikely to indicate definitively whether contamination present in the groundwater has resulted from the pipeline leak or from other sources.

This line is being evaluated as part of the RCRA Facility Investigation (RFI). As part of the RFI, soil borings were collected and groundwater monitoring wells were installed in the areas of ten identified Solid Waste Management Units (SWMUs). The underground pipe system was evaluated and was found not to contain any constituents in excess of the natural concentrations of the fill material (Reference CWM Chicago Incinerator Part B Permit Application, Appendix L).

7.5 Sludge Solidification

35 IAC 725.328 requires that the closure of the impoundments include:

- Elimination of free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues; and

- Stabilize remaining wastes to a bearing capacity sufficient to support a final cover.

The two east Cooling Basins contain sludge that requires solidification to be able to support the final cap. A bench-scale test was performed with Unconsolidated Undrained (UU) Triaxial Testing and paint filter tests to estimate the amount of Portland cement needed for solidification of the sludges. The objectives of the test were to define the recipe that will produce a solidified product with improved physical characteristics and sufficient load-bearing capacity to support the cap and to validate the quantitative test to be used in the field to indicate that the recipe is achieved. The UU Triaxial Testing data indicates that a 40 percent cement (by volume) mixture will provide an ultimate bearing capacity of the solidified material of 7.4 tons per square foot. This mixture contained no free liquids when tested by a paint filter test. Laboratory data is provided in Appendix D.

Preliminary calculations (provided in Appendix D) estimate that the solidified material needs to achieve a bearing capacity of one ton per square foot (tsf) for construction activities. An estimated 40 percent (by weight) of Portland cement will be needed to solidify the material to achieve this load bearing capacity. Before the initiation of the solidification work, the contractor will be required to establish a proposed methodology that will produce a solidified material that meets the performance criteria as defined by the bench-scale solidification testing. CWMCS approval of the method will be prerequisite to proceeding with solidification activities. The method will be similar to the following:

> The cement will be placed on the sludge in small amounts from a dump truck. A bulldozer or backhoe will be used to blend the sludge with the cement. Care will be taken to maintain liner integrity while mixing the sludge. The mixing operations will be visually monitored and a water spray used to minimize air emissions.

A pier is located in the Southeast impoundment. This pier will be removed as a separate activity from the closure. However, the concrete footings from the pier will remain during the closure activities. The solidification activities will be performed around these footings.

The paint filter test will be performed on the solidified material concurrent with blending activities in the field to verify, before curing of the material, that sufficient amounts of Portland Cement have been added. Historic testing of solidification at other facilities has shown that once the solidified material has been sufficiently blended, if the material passes a Paint Filter Test (SW846 Method 9095), then the material typically will have a bearing capacity greater than 4 tons per square foot (tsf). The bearing capacity required for this closure is 1 tsf. In addition, closure of the impoundments is not allowed until all free liquids are removed from the impoundments. Core samples will be collected to perform UU Triaxial testing to verify the bearing capacity of the material before the structural fill is placed on top. Field testing will be performed as specified in the Construction Quality Assurance Plan (CQAP) (Appendix G) to verify this bearing strength has been achieved in the field.

7.6 Construction Stormwater Management

For this first phase of construction, the existing berms of each impoundment will act as a dike. The constructed access ramp between each adjacent impoundment will allow stormwater runoff to flow into the impoundments during this first phase (Figure 7-1). The access ramps will allow construction traffic between the impoundments as needed.

Stormwater will be collected within each impoundment until the cohesive soil layer is finished. The accumulated stormwater will be pumped from each impoundment as required using temporary pumps and hoses. The water will be filtered and pumped to the Phase IV system for treatment.

7.7 Cohesive Soil Test Fill

A test fill of the cohesive soil will be conducted to confirm the specified sequence of placement and compaction procedures to be used during construction of the impervious clay layer so the goals of the Final Cap can be achieved. The test fill will be used to verify that the specified density, moisture content, and hydraulic conductivity values can be consistently achieved in the full-scale facility. The construction details for the test fill are provided in the Construction Specification document. The test fill will be constructed as part of the final cap, in uniform horizontal lifts of uniform thickness.

In order for the data collected from the test fill to be useful, construction control of the test fill must be strict and well documented.

For the test fill to represent accurately the performance of the proposed full-scale liner, the following guidelines will be followed:

- Construction of the test fill will use the same soil material, design specifications, equipment, and procedures proposed for the full-scale liner.[1]

- All applicable parts of the CQA plan will be followed precisely to monitor and document test fill construction and testing.

- The test fill will be constructed at least four times wider than the widest piece of construction equipment to be used on the full-scale liner. This is to ensure that there will be sufficient area to conduct all testing after a buffer area has been left along the edges of the test fill.

- The test fill will be long enough to allow construction equipment to achieve normal operating speed before reaching the area within the test fill that will be used for testing.

- The test fill will be constructed with at least three lifts to evaluate the methodology used to tie lifts together.

- The test fill will be constructed to facilitate field permeability testing [i.e., equipped with a free-draining geotextile to collect and measure drainage through the soil liner].

- Undisturbed samples of the test fill liner will be collected for laboratory permeability tests. Following collection of undisturbed samples from the test fill, the methodology for repairing holes in the soil liner will be evaluated. The evaluation of a repair area will include tests for undisturbed portions of the test fill. The methods and materials that will be used in the repair process are

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[1]A Caterpillar 815 compactor will be used for the test fill. If the desired compaction is not achieved, a Caterpillar 825 will be used and the load bearing capacity requirement for the solidified material and structural fill will be 1.5 tsf (Further discussion is provided in Appendix D).

documented in the CQA plan and will be followed during repair of testing or sampling holes during full-scale liner construction. Performance of repaired soil liner sections should be equal to or exceed the performance of other liner sections.

- The test fill construction will include the removal and replacement of a portion of the soil liner to evaluate the method proposed for repair of defective portions of the full-scale liner.

- The test fill will be constructed to allow determination of the relationship among density, moisture content, and permeability. Field variables that can affect this relationship and that will be carefully measured and controlled in the test fill and during construction of the full-scale liner include the following:

    - the compaction equipment type, configuration, and weight
    - the number of passes of the compaction equipment
    - the method used to break down clods before compaction and the maximum allowable clod size
    - the method used to control and adjust moisture content, including equilibration time, and the quantity of water to be used in any adjustment
    - the speed of the compaction equipment traveling over the liner
    - the uncompacted and compacted lift thicknesses.

Compacted soil density, compactive effort, and penetrometer tests will be used to control and monitor the construction of the full-scale facility liner. The procedures to be used to relate the results of these tests to field permeability of the liner, both in the test fill and in the full-scale liner, also must be documented.

7.8 Cap Placement

A Final Cap will be placed over the four surface impoundments as shown in the cross-section in Figure 7-2. The Final Cap construction boundaries are shown in Figure 7-3. This section provides the general details for the design of the cap. Technical specifications for the cap are provided in the Construction Specification document.

The Final Cap will consist of distinct layers, from the solidified material to the ground surface as shown in Figure 7-4 and as follows:

- Structural fill and solidified material as needed
- 24 inches of compacted cohesive soil with permeability $\leq 1 \times 10^{-7}$ cm/sec
- Geotextile/geonet drainage layer/40 mil flexible geomembrane
- 18 inches of select fill material
- 18 inches of protective soil cover
- 6 inches of topsoil/vegetation

Final grades, thicknesses and dimensions will be measured and documented as part of the as-built process, as outlined in the Construction Quality Assurance Plan. These numbers will be verified with the plans and the tolerances allowed in the Construction Specifications. If deficiencies are found, they will be promptly rectified.

A cross-section of the Final Cap construction over the impoundments is provided in Figure 7-4. In summary, the following tasks will be performed for the installation of the Final Cap. The sequence of events is presented graphically on Figures 7-4 through 7-7, which show plan views and cross-sections of the site at the various stages of the project. These figures have been excerpted directly from the construction specifications.

7.8.1 Structural Fill

Structural fill will be placed in the Stormwater Basin and Solids Retention Basin to the lines and grades detailed in the specifications (Appendix H). Structural fill also will be placed in the Cooling Basins above the solidified material after the material is accepted by the Soil CQA. The depth of the structural fill will vary to obtain a smooth grade as needed. Each layer of structural fill will be compacted as discussed in the specifications.

The existing perimeter berms at the Final Cap limit will be removed to provide the grade needed to key the cap into the surrounding ground surface, following the curing period for the solidified material in the surface impoundments. These berms will be excavated and placed in the surface impoundments as discussed in the specifications and shown on Figure 7-5.

7.8.2 Rough Grading

The area that is to be capped will be graded to the approximate contour and a maximum roughness as defined in the specifications and on Drawing M1695-C03 (Appendix I).

7.8.3 Cohesive Soil

The cohesive soil layer serves as a protective bedding material for the geomembrane and minimizes the rate of leakage through any breeches that might occur in the geomembrane. The cohesive soil layer will be constructed of clay with a permeability of less than or equal to 1×10^{-7} cm/s. The final thickness of the layer will be a minimum of two feet.

7.8.4 Flexible Geomembrane

A flexible geomembrane with a thickness of 40 mil will be placed above the cohesive soil. Field seaming of the geomembrane will be performed and tested according to the specifications and Construction Quality Assurance Plan (CQAP). The geomembrane will be anchored into the existing ground as shown in Figure 7-6.

7.8.5 Geonet/Geotextile

A geonet will be installed on top of the geomembrane to provide drainage for any water that percolates through the select fill to the geomembrane. The geonet diverts the water flow to the limit of the cap. The water will then flow across the ground surface as sheet flow to the slips. Considerations in selecting the geonet are discussed in Section 8.4.

A geotextile layer will be placed between the select fill and the geonet to protect the geomembrane during the installation of the select fill and to act as a filtering media during installation, weathering, erosion, biological mechanisms and abrasions. The geotextile provides a filter over the geonet drainage layer to reduce penetration of soil particles into the drainage layer which would clog the layer. The geotextile was chosen as discussed in Section 8.3.

7.8.6 Select Fill

To protect the underlying geosynthetic materials, an 18 inch thick layer of select fill shall be placed in a single lift, as much as practical, without any compaction value requirements. The looselift thickness necessary to achieve a final select fill surface that is 18-inches above the geosynthetic materials will be determined during the compaction proofing ramp test fill construction.

7.8.7 Protective Fill

An 18-inch protective fill layer of soil will be placed to provide a rooting zone for vegetative growth on the cap surface. This thickness is also needed to ensure that the geosynthetic materials are below the frost penetration depth (see Section 8.2). The final grade from this layer will be 36 inches above the geosynthetics.

7.8.8 Topsoil

The final grade will be brought up to 42 inches above the geosynthetics with topsoil. The six-inch layer of topsoil will retain water to sustain plant growth. The topsoil component will accommodate the root systems of the vegetative component chosen, provide adequate water-holding capacity to sustain vegetation through dry periods, and provide sufficient soil thickness to allow for long-term erosional losses. The topsoil will be placed in an uncompacted layer over the protective fill.

7.8.9 Vegetation

The vegetative cover is the uppermost component of the protective surface layer. The vegetation reduces percolation into the cover system, shields the topsoil from rain, stabilizes the soil against erosive and abrasive forces, binds and anchors the soil to form a stable mass, increases evaporation rates, and enhances site aesthetics. All construction zones will be fertilized and seeded. The selection of vegetation is discussed in Section 8.6. A profile of the Final Cap showing all the soil and geotextile layers is provided in Figure 7-7.

GCS
Golder Construction Services, Inc.
Quality Assurance and Construction Management

REPORT ON

CONSTRUCTION QUALITY ASSURANCE MONITORING DURING INTERIM STATUS CLOSURE SURFACE IMPOUNDMENTS CHICAGO INCINERATOR FACILITY CHICAGO, ILLINOIS

VOLUME I OF II

Submitted to:
CWM Chemical Services, Inc.
11700 South Stony Island Avenue
Chicago, Illinois 60617

DISTRIBUTION:

11 Copies - CWM Chemical Services, Inc.
1 Copy - Golder Construction Services, Inc. / East Lansing
1 Copy - Golder Construction Services, Inc. / Atlanta

December 1993 927-1051

GCS

Golder Construction Services, Inc.
Quality Assurance and Construction Management

December 29, 1993 927-1051

CWM Chemical Services, Inc.
11700 South Stony Island Avenue
Chicago, Illinois 60617

Attention: Mr. Jim Doyle

RE: REPORT ON
CONSTRUCTION QUALITY ASSURANCE MONITORING
DURING INTERIM STATUS CLOSURE
SURFACE IMPOUNDMENTS
CHICAGO INCINERATOR FACILITY
CHICAGO, ILLINOIS

Gentlemen:

This report documents the construction quality assurance (CQA) monitoring services provided by Golder Construction Services, Inc. (GCS) during the closure cover construction of the four interim status surface impoundments at the CWM Chemical Services, Inc., Chicago Incinerator facility in Chicago, Illinois.

We trust that this report is sufficient to document the third party construction quality assurance services provided by GCS during this project. If you should have any questions or if we may be of further service to you, please do not hesitate to contact us.

Very truly yours,

GOLDER CONSTRUCTION SERVICES, INC.

Hugh H. Armitage
Project Manager

HHA/RRT:dld

GOLDER CONSTRUCTION SERVICES, INC • 3751 VENTURE DRIVE • SUITE 230 • DULUTH, GEORGIA 30136 • TELEPHONE. (404) 476-9445 • FAX: (404) 476-9457

Closure Certification Statement

Closure Log C-307-M-7

This statement is to be completed by both the responsible officer and by the registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

The four (4) hazardous waste surface impoundments (T02) at the facility described in this document have been closed in accordance with the specifications in the approved closure plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ILD 000672121
USEPA ID Number

CWM Chemical Services, Inc.
Facility Name

12/23/93
Signature of Owner/Operator Date

James L. Gary, General Manager
Name and Title

12/28/93
Signature of Registered P.E. Date

David M. List 62-047432
Name of Registered P.E. and Illinois Registration Number

Address of Registered P.E.:

Golder Construction Services, Inc.
2035 Asher Court Ste. 700
East Lansing, Michigan 48823

Registered P.E.'s Seal:

12/28/93
Date

LWE:MA:lat/sp/389Z,5

ABSTRACT

Golder Construction Services, Inc. (GCS) was retained by Chemical Waste Management, Inc. (CWM) to provide on-site, full-time third party Construction Quality Assurance (CQA) services for the construction of the closure of the four interim status surface impoundments at the CWM Chemical Services, Inc., Chicago Incinerator facility in Chicago, Illinois.

The closure construction activities included construction of a decontamination pad and removal and treatment of existing free liquids within the impoundments prior to solidification of the existing sludge in the northeast and southeast impoundments. Upon completion of the preliminary site work, solidification of the sludge in the two impoundments was carried out by mixing the sludge with portland cement. Above the solidified sludge in the two east impoundments and above the bottom of the two west impoundments, a layer of structural fill was constructed and then a minimum two foot thick cohesive soil layer was constructed. Overlying the cohesive soil layer, a geosynthetic liner comprising, from the bottom upwards, a 40-mil HDPE geomembrane, geonet and geotextile was installed. The geosynthetic liner system was overlain by a combined select and protective soil layer, which was a minimum thickness of three feet. This soil layer was overlain by a minimum six inch thick layer of topsoil. Fertilizer was mixed with the topsoil, and grass seed and hay mulch were placed on the surface of the topsoil. A "skirt" of rip-rap overlaying a protective geotextile separation fabric layer was constructed as the perimeter of the closure cover materials.

The construction activities started on November 2, 1992 and were completed on October 29, 1993. The closure activities outlined in the project closure plan were temporarily stopped for the winter between January 9, and March 28,1993.

During the contractors' closure construction activity on-site, GCS provided full-time quality assurance monitoring and testing activities.

The results of the testing and monitoring carried out during construction indicate that the materials and construction/installation processes observed by GCS were in substantial compliance with the elements of the project Construction Quality Assurance Plan.

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1.0 INTRODUCTION

1.1 Background

Golder Construction Services, Inc. (GCS) was retained by Chemical Waste Management, Inc. (CWM) to provide on-site, full-time third party Construction Quality Assurance (CQA) services for the construction of the closure of the four interim status surface impoundments at the CWM Chemical Services, Inc., Chicago Incinerator facility in Chicago, Illinois. The location of the facility is shown on the map presented as Figure 1.

This report addresses the construction and associated CQA monitoring activities pertaining to the solidification of the sludge in two of the four impoundment basins, construction of structural fill layer above the solidified sludge and existing soils for the four impoundment basins, construction of the low permeability compacted clay layer, installation of the geosynthetic cover system, installation of the protective separation geotextile and rip-rap "skirt", placement of the select and protective soil layers above the geosynthetic cover and the placement of the topsoil layer and a vegetative cover (seed, fertilizer and mulch).

This report includes a description of the project and an overview of the activities for the closure construction activities monitored by GCS. The results of the CQA services are presented in sections which generally correspond to the actual sequence of construction. Summaries of the quality assurance data collected during construction of the Interim Status Closure of the surface impoundments and associated laboratory testing are presented as appendices to this report. The as-built drawings are included with this report and were prepared by National Survey Service, Inc., the land surveyor for this project, who is registered in the State of Illinois. The report concludes with a statement by GCS that the materials and construction/installation processes observed were in substantial compliance with the elements of the project Construction Quality Assurance Plan.

1.2 Project Description

The CWM Chemical Services, Inc., Chicago Incinerator facility is a treatment facility for hazardous wastes located on South Stony Island Avenue in the southeastern section of the City of Chicago. The site consists of 31 acres owned by the Illinois International Port. The four surface impoundments are located at the northwest area of the incinerator facility and are situated on the pier between slip Nos. 6 and 8 in Lake Calumet.

The surface impoundments, in operation since early 1980, were removed from service in November of 1988. "Clean closure" of the surface impoundments was initiated in 1987 in accordance with an Interim Status Closure Plan approved by the Illinois Environmental Protection Agency (IEPA) but was not successfully completed.

The four existing surface impoundments are located adjacent to one another and form a rectangular configuration. Prior to the present closure construction activities, the four impoundments were separated by soil berms and a perimeter soil berm was located around the impoundments to prevent stormwater runoff from entering the impoundments.

The four surface impoundments included former Cooling Basins 1 and 2, located on the east side, and the former Solids Retention Basin and Stormwater Basin which were situated at the northwest and southwest quadrants, respectively of the impoundment area.

Briefly, the design of the current closure of the four surface impoundments includes construction of a decontamination pad and removal and treatment of existing free liquids, which GCS understands consisted of accumulated precipitation, within the impoundments prior to solidification of the existing sludge in the northeast and southeast impoundments. Upon completion of the preliminary site work, solidification of the sludge in the two impoundments was carried out by mixing the sludge with portland cement. Above the solidified sludge in the two east impoundments and the existing soil in the two west impoundments a layer of structural fill and then a minimum 2 foot thick cohesive soil layer was constructed. Overlying the cohesive soil layer, a geosynthetic liner comprising, from the bottom upwards, a 40-mil HDPE geomembrane, geonet and geotextile was installed. The geosynthetic liner system was overlain by a select and protective soil layer, each 1.5 feet thick, and in turn was overlain by a 6 inch topsoil layer. Fertilizer was mixed with the topsoil. Grass seed and mulch were then spread over the surface of the topsoil. A "skirt" of rip-rap overlying a protective geotextile separation fabric layer was constructed around the perimeter of the closure cover materials.

1.3 Scope of Services

The Scope of Services to be provided by GCS for the project were summarized in GCS proposal (PR7-1074) to Chemical Waste Management, Inc., dated October 7, 1992. Briefly, the scope of services provided by GCS consisted of monitoring, testing and documenting the construction activities related to the solidification of the existing sludge in the northeast and southeast surface impoundments, construction of the various soil components of the final cover system and the installation of the geosynthetic portion of the final cover system. In addition, laboratory testing of the various soil and geosynthetic components to assess their suitability with respect to the requirements of the project documents was also carried out.

The services provided by GCS during this project were conducted in accordance with the following:

i) "Construction Quality Assurance Plan (CQAP)" contained in Appendix G of "Surface Impoundment Closure Plan, Volume II, Revision 1", dated July,1992, prepared by SEC Donohue;

ii) "Technical Specifications" contained in Appendix H of "Surface Impoundment Closure Plan, Volume II, Revision 1", dated July, 1992, prepared by SEC Donohue; and

iii) "Construction Drawings" contained in Appendix I of "Surface Impoundment Closure Plan, Volume II, Revision 1" dated July, 1992, prepared by SEC Donohue. (Drawings M1695-C-01 to M1695-C-06, inclusive).

In addition, an occasional clarification to the above referenced documents and/or issues pertaining to project construction activities were required based upon field conditions encountered during the conduct of closure activities. In such instances, the CQA services provided by GCS were carried out in adherence to the requirements contained in correspondence from the Illinois Environmental Protection Agency (IEPA), the project design engineer and/or the operator of the facility. Letters documenting these clarifications to the CQA Plan, Technical Specifications, or construction drawings are presented in Appendix B. These cumulative requirements will be referred to throughout this report as the project "Specifications".

The GCS CQA team during construction of the surface impoundment closure cover consisted of a sponsoring Principal of GCS, Registered Professional Engineer in the State of Illinois, Project Manager, Resident CQA Officer and one to two soil and geosynthetic CQA monitors. On occasion, additional monitors from the Chicago office of our parent company, Golder Associates Inc. assisted the GCS Resident CQA Officer with the various CQA monitoring activities at the site.

GCS generally carried out full-time monitoring during the contractors's construction activities at the facility. The construction activities identified in the Interim Status Closure Plan prepared by SEC Donohue Inc. (currently known as Rust Environment & Infrastructure (Rust E&I)) for the site, were carried out in two phases. The two phases of construction were separated by a winter shut down of closure activities at the facility. The period of closure construction activities identified in the closure documents were from between:

i) November 2, 1992 to January 8, 1993; and
ii) March 29, 1993 to October 29, 1993.

A listing of GCS and Golder Associates Inc., personnel involved with the project during the closure construction activities is presented in Appendix A.

2.0 CONSTRUCTION OVERVIEW

2.1 Project Participants

The principal project participants during the interim status closure construction activities of the surface impoundments at the Chicago Incinerator facility included:

i) Chemical Waste Management, Inc. (CWMI) as corporate parent company of the operator of the facility ;

ii) CWM Chemical Services, Inc. (CWMCS) as operator of the facility;

iii) Rust Environment & Infrastructure (REI) (formerly SEC Donohue) as the project design engineer;

iv) Golder Construction Services, Inc., (GCS) as the third party Quality Assurance Consultant;

v) Rust Remedial Services Inc. (RRS) (formerly CWM Remedial Services Group - RSG) as the general project contractor;

vi) Raffin Concrete Company, (Raffin) as a subcontractor to RRS for concrete construction;

vii) Dyer Construction, Inc. (Dyer) as an earthwork subcontractor to RRS;

viii) National Survey Service, Inc. (NSS) as the facility surveyor during construction;

ix) National Seal Company (NSC) as the geosynthetic materials installer; and

x) R.L. Vaughn and Associates as the landscaping subcontractor to RRS.

In addition to the project participants listed above there were several other minor project participants involved as subconsultants which have not been listed herein. Generally, only the principal project participants will be referenced. The subconsultants will be implicitly included with the name of the principal project participant.

2.2 Construction Materials

Supplier	Material
Metro Mix	Concrete (decontamination pad)
Dixon-Marquette Cement	Portland Cement (Type I)
Dyer Construction, Inc.	Structural Fill (Soil Type S1)
Dyer Construction, Inc.	Cohesive Soil (Soil Type S2)
Dyer Construction, Inc.	Select Fill (Soil Type S3)
Dyer Construction, Inc.	Protective Fill (Soil Type S4)
Dyer Construction, Inc.	Topsoil (Soil Type S5)
R.L. Vaughn and Associates	Fertilizer, Seed and Mulch
Dyer Construction, Inc.	Rip-Rap
National Seal Company	Geomembrane
National Seal Company	Geonet
Hoechst-Celanese	Geotextile

2.3 Initial Site Construction

Prior to the start of solidification of the existing sludge in the impoundments and the earthwork construction of the impoundment closure activities, the contractor carried out some initial site construction activities. These included the installation and operation of a dewatering system to remove free liquids from the surface impoundments and construction of a concrete equipment decontamination pad. These activities are discussed in the following sections.

2.3.1 Dewatering System Installation and Operation

The contractor mobilized personnel and equipment to the facility on November 2, 1992 and began installing a temporary dewatering system to drain and filter free liquids, which GCS understands consisted of accumulated precipitation, from the surface impoundments. Although the dewatering system underwent some minor equipment modifications during the course of operation, the system typically included a fluid tank, sand vessels, a filtering system and pumps. The system was installed within an exclusion zone which had been established around the perimeter of the surface impoundments. From the dewatering system a discharge pipe, which was contained within secondary containment, extended into the CWMCS Phase IV water treatment system.

Consistent with the requirements outlined in the project documents, the contractor tested the filtered liquid pumped from the surface impoundments to ensure that a Total Suspended Solids (TSS) concentration of less than 40 parts per million (i.e. 40 ppm or 40 mg/l) was achieved prior to introduction of the filtered liquid into the CWMCS Phase IV treatment system. Following an initial period of trial testing of the dewatering system, discharge of the filtered liquid to the CWMCS Phase IV treatment system began on November 18, 1992. The contractor carried out the dewatering activities in a phased program, initially dewatering the northeast impoundment and proceeding to the southeast, southwest and finally the northwest impoundment. The dewatering activities continued until January 8, 1993 at which time the treatment system was deactivated for the winter shutdown. Dewatering activities were restarted on March 29, 1993. The dewatering of the impoundments was substantially completed on April 28, 1993. The contractor maintained a dewatering system in order to manage and treat stormwater which collected in the impoundments during construction activities.

2.3.2 Decontamination Pad Construction

Construction of the decontamination pad structure was started on November 3, 1992 by the subcontractor, Raffin Concrete Company. The construction of the decontamination pad was completed on November 19, 1992.

2.4 Sludge Solidification

Upon completion of the dewatering activities in the northeast impoundment, solidification of the existing sludge started on November 17, 1992. The typical procedure consisted of dispersing the powdered portland cement (Type I) over the surface of the sludge and then mixing the two components. The contractor carried out the mixing operation using a Caterpillar D4H bulldozer. The blade of the bulldozer was used to mix the two materials as it proceeded around the inside of the impoundment. As the bulldozer traversed inside the impoundment, the operator generally utilized a slow rate of speed and avoided sharp turns to minimize disturbance to the soil located beneath the sludge. Upon completion of the solidification of the northeast impoundment, further solidification activities were discontinued on November 25, 1992 due to subfreezing temperatures. Solidification of the sludge in the southeast impoundment was started April 21, 1993 and was generally completed on April 24, 1993. During the winter shut-down some surficial softening of the upper surface of the solidified sludge in the northeast impoundment occurred. Additional portland cement was placed and mixed in order to resolidify the softened surface material at the east and south sides of the northeast impoundment. This work was carried out and completed on April 27, 1993. Although not specifically required in the closure documents, following dewatering of the northwest and southwest impoundments, the contractor placed and mixed a limited amount of portland cement with the "sludge-like" material at the bottom of the two west impoundments. This work was carried out at the request of CWMCS for purposes of providing additional structural support prior to placing the regraded berm and structural fill soil materials.

2.5 Structural Fill Construction

Upon completion and curing of the solidified sludge in the northeast and southeast impoundments and upon receiving acceptable field and laboratory test results for the solidified sludge material, the contractor began placement of the soil materials, which resulted from cutting down the interior and perimeter soil berms, on the surface of the solidified sludge as specified in the project specifications. Similarly, following dewatering and remedial work to prepare the soil surface at the base of the northwest and southwest impoundments, the existing soil from the excavation of the berms was also spread over the base of these two impoundments. Upon completion, imported structural fill material (Soil Type S1) from a local borrow site was placed above the layer of soil from the berms. The fill was typically placed in approximately 7 to 8 inch thick loose lifts. Consistent with the project requirements, once the initial 1.5 feet of structural fill had been placed in each of the four surface impoundments, the requirement for a Level

C Personal Protective exclusion zone was reduced to Level D. The earthwork subcontractor, Dyer Construction, Inc. (Dyer) was mobilized to the facility to complete the construction of the structural fill layer. Dyer personnel used a Caterpillar D7G bulldozer and a Raygo Ram 45 cleated foot compactor to place and compact the structural fill. The structural fill construction was started on May 6, 1993 and was substantially completed on June 17, 1993. A localized area of structural fill construction at the southeast corner of the closure area was completed on July 26, 1993 due to weather related constraints.

During the construction of the structural fill layer the project experienced a number of unanticipated delays due to weather conditions and field conditions identified when closure activities were on-going and included:

- unusually heavy rain events in the month of June 1993;
- unanticipated soil conditions encountered following regrading of the north perimeter berm;
- concrete structures encountered within the perimeter berms; and
- unanticipated and localized wet zones encountered within the impoundments during fill construction.

The project was further delayed as the conditions resulting from the situations stated above were communicated to the IEPA and their concurrence on the actions required by CWMCS to document and address these conditions were obtained. In letters dated May 28, 1993 and June 14, 1993 to Mr. Jim Moore of the IEPA from Ms. Lisa Grassl of CWMCS, a description of the conditions and the actions to be taken in correspondence to the delays stated above were described. Copies of this correspondence is included in Appendix B of this report.

2.6 Cohesive Soil (Clay) Layer Construction

2.6.1 Cohesive Soil Layer Test Fill

Prior to construction of the minimum 2 foot thick cohesive soil (clay) layer (Soil Type S2) above the structural fill, a test fill was constructed using cohesive soil material from a local borrow source which met the project Specifications. A number of borrow sources were initially investigated to assess their suitability for use as the cohesive soil layer material. A laboratory testing program, as outlined in the project Specifications augmented by input from the project design engineer, was carried out on samples obtained from the potential borrow sources. The laboratory testing carried out on the soil samples obtained from a local borrow source known as the "Clarence Dew" property met the specified requirements outlined in the CQA Plan for the low permeability cohesive soil layer. The results of the laboratory testing program were used to provide guidance to the contractor regarding placement moisture content and degree of compaction required to achieve the specified maximum permeability of 1×10^{-7} cm/sec for the cohesive layer.

The earthwork subcontractor began construction of the cohesive soil test fill on July 7, 1993. The procedures used to construct the test fill were in general conformance with those outlined in the project Specifications. The test fill, measuring approximately 60 feet wide and 110 feet long was constructed in the central area of the impoundment closure area on the compacted surface of the structural fill. The subcontractor proofrolled the surface of the structural fill prior to placement of the test fill cohesive soil. The cohesive soil was transported to the facility by tandem and trailer trucks and placed in the area of the test fill. The subcontractor spread the soil using a Caterpillar D7G bulldozer in typically 7.5 inch thick loose lifts. A Raygo Ram 45 cleated foot compactor was used to compact the soil. A water truck was used to apply water to the cohesive soil where moisture conditioning was warranted. A discing implement attached to the bulldozer was used to mix the cohesive soil and to scarify the surface of each lift prior to placement of the subsequent lift. The construction procedures for achieving the appropriate placement moisture content for the soil as well as determining the approximate number of passes by the compaction equipment to achieve the required degree of compaction were established during construction of the first lift of the test fill. Construction of the test fill was completed on July 14, 1993.

2.6.2 Cohesive Soil Layer

Based on the acceptable results of the field and laboratory testing program carried out during the test fill construction the subcontractor began construction of the cohesive soil layer on July 29, 1993. The construction procedures established during the test fill construction were also used during construction of the remainder of the cohesive soil layer for the closure area. During construction of each soil lift, the contractor cut into the sides of the existing test fill pad to ensure that the materials were well mixed and that no vertical discontinuity would exist. The construction and final grading of the surface of the cohesive soil layer was completed on October 2, 1993.

The cohesive soil layer construction was delayed on a number of occasions as a result of unusually rainy weather and wet field conditions Some additional time was expended by the contractor to remove and replace a portion of the final lift of the cohesive layer. The portion was replaced because it contained pieces of plastic sheeting used to cover the cohesive soil test fill which had been inadvertently disced into the cohesive soil in a localized area, and to ensure that the cohesive layer thickness was achieved. The as-built thickness of the cohesive layer following remedial work by the subcontractor was a minimum of 2.0 feet, up to 3.8 feet.

2.7 Geosynthetic Installation

The installation of the geomembrane began on October 8, 1993 and was substantially complete on October 13, 1993. Based on the calculated as-built area determined by the project surveyor, the geomembrane liner (including the area within the anchor trench) consists of approximately 118,500 square feet of 40-mil thick HDPE geomembrane covering the surface impoundments. The geomembrane was extended into a 2 foot deep and 2 foot wide anchor trench located around the perimeter of the closure area.

Consistent with the project Specifications, an approximately 6 foot wide "rainflap/skirt" of 40-mil geomembrane was welded around the perimeter of the closure area. This "skirt" extended over the backfilled anchor trench.

Installation of the overlying geonet drainage layer and, in turn, the layer of geotextile began on October 10, 1993 and was completed on October 13, 1993. The as-built plan area of the geonet and geotextile, based on the calculated quantity reported by the surveyor, was approximately 113,300 square feet.

2.8 Select and Protective Soil Layer Construction

Construction of the select and protective soil layers, which overlie the geosynthetic cover, was started by the subcontractor on October 13, 1993 and was completed on October 22, 1993. The design thickness of each of these layers is 1.5 feet. Consistent with direction provided by the project design engineer, the two layers were combined into a single three foot thick layer comprised of the same soil material. However, the subcontractor placed the material in two, 18 inch thick lifts. The material was transported to the facility by tandem and trailer trucks and end dumped around the perimeter of the closure area. The subcontractor then used a Caterpillar D7G bulldozer. Based on observations made by GCS, a minimum initial lift thickness of 18 inches was maintained between the geotextile and the tracks of the bulldozer. In some instances, a John Deere 644G front end loader was used to assist in transporting and placing the fill materials. Based on GCS observations, the subcontractor maintained a thickness of fill of greater than 24 inches between the geotextile and the loader tires. A total of approximately 13,000 cubic yards of select/protective soil cover was placed in the closure area as indicated in a review of the quantities calculated by the surveyor.

2.9 Rip-Rap Installation

Prior to the placement of the rip-rap material, a protective geotextile separation fabric (Trevira 1145) was placed on the sideslope of the select/protective soil layers around the perimeter of the closure area in general conformance with the project specifications. The protective geotextile was extended a minimum distance of 2 feet behind the crest of the surface of the protective soil layer. The seams of the geotextile panels were thermally (heat) bonded. Once the protective geotextile separation fabric was placed and seamed the subcontractor placed the rip-rap on the perimeter sideslopes using backhoes and a front end loader. Some manual hand work was carried out to finish the rip-rap placement. The protective geotextile and rip-rap placement began on October 22, 1993 and was completed on October 23, 1993.

2.10 Topsoil, Seed and Mulch Placement

Placement of the topsoil above the surface of the protective fill was carried out between October 23, and October 26, 1993. The subcontractor placed the topsoil using a Caterpillar D7G Bulldozer. The design thickness of the topsoil layer was 6 inches. Following the topsoil placement, fertilizer was mixed into the upper surface of the topsoil and the grass seed and mulching was spread over the surface of the topsoil by R.L. Vaughn and Associates. The fertilizing, seeding and mulching was carried out on October 28, 1993 and was completed on October 29, 1993.

2.11 Design/Specification Clarifications

During construction, clarifications to the project documents referenced in Section 1.3 of this report were required based upon conditions encountered in the field. Documentation addressing clarifications to the CQA Plan, Construction Specifications or construction drawings are presented in Appendix B. As discussed in Section 1.3 of this report, these cumulative requirements will be referred to throughout this report as the project "Specifications".

3.0 IMPOUNDMENT DEWATERING MONITORING PROCEDURES

In conjunction with the sludge solidification and earthwork construction activities, GCS carried out visual observations during the surface impoundment dewatering system installation and operation carried out by the contractor. No specific tasks pertaining to third party CQA monitoring were identified in the Interim Status Closure Plan documents prepared by SEC Donohue (REI). However, the project Specifications do provide specifics pertaining to the dewatering activities for the four surface impoundments to be followed by the contractor. Daily observations of the contractors dewatering activities were documented by GCS. Based on GCS observations during the dewatering activities, the procedure followed by the contractor typically consisted of obtaining a sample of the discharge fluid from the dewatering system each morning. The contractor subsequently reviewed the laboratory test results to ensure that the project Specification for Total Suspended Solids (TSS) of a maximum concentration of 40 parts per million (40 ppm or 40 mg/l) were achieved prior to starting discharge of the filtered fluid to the CWMCS Phase IV treatment system. The frequency of the TSS testing was established by CWM at a minimum of one sample per day.

In the event that the laboratory test results did not meet the project Specifications the contractor made adjustments or backflushed the dewatering system, and resampled the discharge fluid. The contractor re-circulated the filtered fluid within the impoundments or pumped the fluid to another impoundment until such time that the test results met the project Specifications and pumping to the CWMCS Phase IV treatment system could resume. As stipulated in the project Specifications, the filtered fluid could be pumped to the treatment system at a maximum rate of 500 gallons per minute.

The contractor provided GCS with a copy of the laboratory test results for the TSS testing. Copies of the laboratory test results are presented in Appendix C (Section C-1).

On September 1, 1993, while the contractor was handling accumulated liquid from the decontamination pad for discharge to the CWMCS Phase IV treatment system, an estimated volume of 3.5 gallons of liquid was accidently spilled on the ground. RRS informed CWMCS facility personnel of the incident. RRS indicated that they would arrange for sampling of the soil in the spill area. The results of the laboratory testing carried out on the soil spill sample (Sample No. 60571) by Environmental Monitoring and Technologies, Inc. (EMT) dated September 14, 1993, are presented in Appendix C (Section C-2). The results were reviewed by CWMCS facility personnel. Based on CWMCS review of the test results data no remedial work was deemed necessary at the spill area.

As requested by CWMCS, copies of the results of the PCB wipe tests performed during decontamination of on-site equipment used within the closure area provided to GCS have been included in Appendix C (Section C-2). The samples were collected and tested by others and the test results were reviewed by CWMCS personnel for compliance with the project Specifications.

CWMCS provided GCS with copies of the Hazardous Waste Manifests for the Decontamination Pad Solids, Pond Closure PPE and Filter Bags (from the contractor's dewatering system) and Soil and Debris (piping) associated with the closure construction activities. This information as requested has been included in Appendix C (Section C-3). The review of this information was carried out by CWMCS personnel.

4.0 DECONTAMINATION PAD CONSTRUCTION MONITORING

In conjunction with the monitoring of the dewatering system installation and operation at the site, GCS also monitored the construction of the equipment decontamination pad. Following excavation for the decontamination pad slab by RRS, the subcontractor (Raffin) placed sand and gravel fill on the subgrade surface and compacted the material using a manually operated vibratory plate tamper. The contactor also excavated the area of the proposed concrete sump structure attached to the decontamination pad. Prior to placing the concrete, a steel reinforcing mesh was installed for the subbase slab and the decontamination pad slab. The reinforcing steel mesh was also installed prior to placing concrete for the walls of the sump structure. Formwork assembly and placement of the steel reinforcement for the decontamination pad was carried out by the concrete subcontractor.

During the initial construction, CWM's project representative directed that the base slab for the sump structure be removed since it had been poured without advising the GCS Resident CQA Officer of the construction so that concrete testing could be performed. The contractor subsequently removed the slab and re-erected the formwork and replaced the reinforcing mesh.

GCS carried out slump and air content testing of the plastic concrete typically upon the arrival of the first concrete truck at the facility. The average measured slump for the three loads of concrete tested ranged between 2.5 and 3 inches. The corresponding measured air content of the concrete tested ranged between 6.5 and 7.5 percent which meets the project requirement of an air content between 5 and 8 percent. Due to the potential of overnight freezing temperatures a non-chloride set accelerator admixture "DARASET" was utilized in the concrete.

Following the field testing the GCS monitor cast concrete cylinders for 7 and 28 day laboratory compressive strength testing. Following an initial 24 hour curing period the concrete cylinders were transported to Materials Testing Laboratories, Inc. in Bellwood, Illinois. The 28 day compressive strength for the concrete cylinders tested, for the three sets cast, all indicated strengths in excess of 4,000 pounds per square inch (psi). This met the project Specifications.

The results of the field testing, laboratory compressive strength testing, the concrete delivery tickets and manufacturer's data sheet on the "DARASET" admixture are presented in Appendix D.

5.0 SLUDGE SOLIDIFICATION MONITORING PROCEDURES

The CQA procedures employed by GCS during the sludge solidification activities at the northeast and southeast surface impoundments consisted of:

- Visual observation of the placement of the portland cement onto the surface of the two impoundments;
- Visual observation of the mixing activities carried out by the contractor to blend the existing sludge with the portland cement;
- Performing paint-filter testing on the sludge/portland cement mixture prior to curing;
- Obtaining samples from the solidified sludge following an initial curing period for laboratory unconsolidated-undrained compressive strength testing; and
- Observation of the contractor's equipment decontamination following removal from the impoundments and exclusion area.

Upon completion of the dewatering activities at the northeast impoundment in November, 1992 RSG/RRS began the sludge solidification activities.

Initially, the project surveyor carried out a level survey in order to attempt to determine the elevation of the bottom of the impoundments beneath the sludge in each of the two impoundments. The spot elevations were determined by manually pushing the survey level rod through the relatively soft sludge material until resistance to further advancement was encountered. It was inferred that the resistance to further advancement was the surface of the underlying soil liner. The surveyor also recorded the elevation of the top of concrete structures and pipes which were exposed in the northeast and southeast impoundments upon completion of dewatering activities.

The presence of the concrete structures and pipes was unexpected. GCS was informed by CWMCS that the presence of structures or pipes was not known during the preparation of the closure documents. The procedures agreed upon between the IEPA and CWMCS to address these structures are outlined in correspondence transmitted to the IEPA regarding the subject dated May 28, 1993 to Mr. J. Moore from Ms. Lisa Grassl of CWMCS. This correspondence includes details of the procedures to be implemented to address these issues and is provided in Appendix B. In general, GCS monitored the recommended remedial work carried out by the contractor. Typically, the work consisted of grouting open ended pipes using a non-shrink grout as recommended by the project design engineer, and complete or partial removal or backfilling of open concrete structures. Based on GCS observations, the contractor's remedial work was carried out in adherence to the recommendations and directions provided by the operator and project design engineer and as indicated in the correspondence to IEPA.

The portland cement (Type I) used for the solidification operation was transported to the facility in tractor trailer tank trucks. The powdered portland cement was discharged from a flexible hose attached to the truck into a "distribution box" placed within the impoundments. The distribution box was used to control fugitive dust emissions. The mixing operation was carried out using a bulldozer which generally traversed the base of the impoundment in a "figure 8" pattern or from side to side of the impoundment. The dozer moved at a relatively slow rate of speed and avoided sharp turns in order to avoid disturbance to the underlying soil liner.

During the mixing operation and prior to curing, GCS carried out Paint-Filter testing to ensure that the mixture indicated an absence of free liquid. The testing was carried out at a frequency of 1 test per 5,000 square feet of surface area or a minimum of four per surface impoundment. GCS advised facility personnel of the results of paint filter testing. The results of the paint filter testing indicated that all samples passed the paint filter test in accordance with the project Specifications. The paint filter test results are presented in Appendix E (Section E-1).

Following a period of curing of the solidified sludge in each of the northeast and southeast impoundments relatively undisturbed 3 inch diameter shelby tube samples were obtained by GCS for laboratory testing. Consistent with the project requirements a minimum of four samples were obtained from each surface impoundment basin. Two samples were shipped to Golder Associates Inc., laboratory in Atlanta, Georgia. The other two samples were stored at the facility.

When surface impoundment closure construction activities resumed at the facility in the spring of 1993, following the winter shutdown, facility personnel noted that the surface of the solidified sludge in the northeast impoundment had softened. The project design engineer provided comments indicating that the exposure to freeze-thaw cycles during the winter along with the presence of accumulated precipitation and meltwater runoff into the impoundment could have resulted in the softened surface condition of the solidified sludge. At the direction of the project design engineer, the contractor carried out additional work to resolidify the upper surface of the sludge. GCS monitored both the contractors additional work at the northeast impoundment and the solidification of the southeast impoundment in 1993. Laboratory testing on two additional shelby tube samples of the resolidified sludge was carried out as directed by the project engineer.

In addition to obtaining the shelby tube samples, the GCS monitor also carried out pocket penetrometer testing on the surface of the solidified sludge at the frequency specified in the project Specifications.

The results of the unconsolidated-unconfined compressive strength testing and the field pocket penetrometer testing carried out indicated average compressive strengths in excess of 1.5 tons per square foot. The minimum required compressive strength indicated in the project Specifications (assuming that a CAT 825C compactor would be used for compaction of the overlying soil layers) is 1.5 tons per square foot.

The results of the laboratory testing were summarized in GCS letters dated February 11, 1993 and May 28, 1993 to CWM. These letters are provided in Appendix E (Section E-2).

6.0 SOIL CONSTRUCTION MONITORING PROCEDURES

6.1 Structural Fill Layer (Soil Type S1)

6.1.1 Initial Construction and Additional Work

Prior to starting construction of the structural fill the contractor carried out additional work to address concrete structures and pipes which were unexpectedly encountered during either the dewatering activities or during excavation and regrading of the interior and exterior perimeter soil berms. GCS was informed by CWMCS that the presence of structures or pipes was not known during the preparation of the closure documents. Consequently, it was necessary to obtain input from the IEPA, the design engineer and CWMCS on the procedures required to address the structures and pipes (see correspondence dated May 28, 1993 to Mr. J. Moore, IEPA from Ms. L. Grassl, CWMCS, Appendix B). Following the directions provided by the Agency, the design engineer and CWMCS, the GCS Resident CQA Officer observed the additional work carried out by the contractor. Where feasible, existing loose piping was removed within the limits of the closure area. The piping was either placed on the surface of the solidified sludge as outlined in the project Specifications or placed on the decontamination pad for decontamination and off-site disposal. Piping which could not be removed from the impoundments without potentially impacting the integrity of underlying soils was cut off below the design level of the underside of the cohesive layer, as required, and the open end of the pipe was grouted using a non-shrink grout recommended by the designer. The concrete structures were cut or broken below the design grade of the underside of the cohesive soil layer and either backfilled with soil compacted in place or backfilled with concrete as described in the May 28, 1993 letter to the IEPA on this subject.

During preparation of the subgrade in the northwest impoundment, "bubbling" was observed at the bottom of the impoundment. The situation was reported to CWMCS and the project design engineer. Based on input from the design engineer the situation was investigated and monitored. Based on the results of the visual observations made by the GCS Resident Officer, and an assessment of the situation made by the design engineer, the conditions at the bottom of the impoundment had not significantly changed over a period of several days, therefore, the project design engineer recommended that no significant additional work was required. However, it was recommended that the initial lift of structural fill material above the subgrade consist of cohesive soil. At the request of CWMCS, the contractor initially solidified the "sludge-like" materials at the bottom of both the northwest and southwest impoundments by mixing it with a limited quantity of portland cement. The contractor then placed the cohesive structural fill above the solidified subgrade. GCS did not observe any further evidence of "bubbling" following the subgrade preparation and placement of subsequent layers of structural fill in the northwest impoundment.

It was also necessary to address localized and minor wet zones observed during construction of the structural fill at the northeast and southeast impoundments. Recommendations provided by the project design engineer were followed by the contractor to address these wet areas. GCS monitored the additional work carried out by the contractor in order to confirm that the work adhered to the intent of the project design engineer's recommendations.

6.1.2 Structural Fill Construction CQA Monitoring

Upon completion of the sludge solidification and associated CQA activities in the two east impoundments and completion of subgrade preparation and additional work recommended by the project design engineer and CWMCS in the two west impoundments, the contractor placed an initial lift of material obtained from the regrading of the interior and perimeter soil berms. Visual observations were made by GCS to verify that the work did not cause any disturbance to the solidified sludge. The CQA Plan did not require any specific field testing of this work.

The initial 18 inches of structural fill above the top of the solidified sludge was carried out by RRS under Health and Safety Level C respiratory protection for persons entering the exclusion zone. The earthwork subcontractor, Dyer, completed the construction of the structural fill under Level D protection.

The majority of the structural fill material was obtained by Dyer from a borrow source which is known as Brites located in Chicago Heights, Illinois. A minor quantity of structural fill material was obtained from a borrow source known as Stahl Construction located in Calumet City, Illinois. The soil from these two sources had been initially tested to assess its suitability as cohesive soil material. The samples tested met the requirements for structural fill but not the permeability requirements in the project Specifications for the cohesive soil layer.

The structural fill was placed in nominal 6 to 9 inch thick loose lifts and compacted using a cleated foot compactor. Following compaction of each layer, field density testing was conducted utilizing a nuclear density gauge (ASTM D2922 and D3017) at the frequency stipulated in the project Specifications. As a daily check on the density results from the nuclear gauge, density determination using the sand-cone method (ASTM D1556) was performed. No requirements for the degree of compaction was specified for the structural fill in the project closure plan documents.

The project Specifications required that the structural fill be compacted to a minimum bearing capacity of 1 ton per square foot (tsf). For this material, bearing capacity was to be based on measurements on the surface of the structural fill using a field Torvane or pocket penetrometer apparatus. The field measurements performed by the GCS monitor exceeded compressive strength values of 1 tsf. Accordingly, the required bearing pressure of 1 tsf had been achieved.

The results of the field density testing performed during construction of the structural fill are presented in Appendix F (Section F-1).

6.2 Cohesive Soil Layer (Soil Type S2)

6.2.1 Test Fill Construction

Prior to the construction of the cohesive (clay) soil layer, a test fill was constructed in conformance with the requirements of the project Specifications. The primary purpose of the test fill was to establish the placement procedures and compaction requirements necessary to achieve a coefficient of permeability equal to or less than 1 x 10^{-7} cm/sec for the cohesive soil layer. Prior to the test fill construction, samples of soil were obtained from various borrow sources. Laboratory testing was carried out on the samples to assess their suitability for use in constructing the cohesive (clay) test fill.

Based on the results of the laboratory testing program, a cohesive soil obtained from a borrow source referred to as the "Dew Property" met the project permeability requirements. The material from this borrow source was used to construct the test fill and, subsequently, the cohesive soil layer.

The results of the laboratory and field testing program carried out during construction of the test fill and conclusions based on the test results were initially provided to CWM on September 10, 1993 for review and comment. The conclusions were used to provide guidance during the construction of the cohesive soil layer. A copy of the results of the cohesive (clay) test fill construction are presented in Appendix F (Section F-2).

6.2.2 Cohesive Soil Layer CQA Monitoring

The compacted cohesive (clay) soil layer construction for the closure cover was monitored to evaluate and confirm that the soil material and construction procedures conformed to both the project specifications and the procedures established during the construction of the test fill. Consequently, the cohesive soil layer was constructed to ensure:

- A minimum layer thickness of 2.0 feet following compaction:

Twelve relatively undisturbed Shelby tube samples were obtained by the GCS field monitoring personnel during construction of the compacted clay layer. The samples were obtained by pushing a 3-inch diameter tube at three selected locations following construction of the initial four 6-inch thick lifts. Five additional samples were obtained, as directed by the project design engineer, in areas where the subcontractor placed two additional lifts of cohesive soil at localized zones of the closure area. Upon withdrawal of the tube each sample location was backfilled with layers of bentonite and cohesive soil and manually compacted.

The Shelby tube samples were carefully packaged and sent to the Golder Associates Inc. laboratory in Denver, Colorado. Laboratory testing was carried out consistent with the requirements of the project specifications. The results of the laboratory testing carried out on sixteen of the seventeen shelby tube samples tested, indicated coefficients of permeability ranging from 2×10^{-8} to 4×10^{-8} cm/sec which meet the project requirements. The seventeenth sample (Sample ST-2) indicated a permeability of 5×10^{-7} cm/sec. The results of this test were discussed with the project design engineer who indicated that two supplementary Shelby tube samples be obtained; one immediately adjacent to the location of ST-2 and the other approximately 30 feet from the location of ST-2.

Two Shelby tube samples (Samples ST-2A and ST-2B) were subsequently obtained and were shipped to STS Consultants Ltd. laboratory in Chicago, Illinois for testing. In conjunction with the resampling, GCS manually excavated a shallow test hole in the immediate vicinity of sample ST-2 to visually examine the consistency and condition of the in-place cohesive soil. Also, the results of the laboratory test data for sample ST-2 were reviewed by GCS. The field observations made in the test hole indicated that the cohesive soil was relatively homogeneous, well compacted and had been placed at or above the soil's optimum moisture content. The underlying structural fill material exposed in the test holes was somewhat drier consistency and contained some small voids within the soil matrix. Further, on the basis of the field observations and review of the visual underlying geosynthetic materials. The initial lift of select/protective fill was typically 1.5 feet thick and was spread using a Caterpillar D7G bulldozer. A front end loader was used to assist in the placement and transport of the fill. A minimum of 24 inches of fill was maintained between the geotextile and the contact surface of the front end loader tires.

As required in the project Specifications, GCS carried out field density testing on the select/protective soil layers at a frequency of one test per 5,000 cubic yards of material placed. The results of the testing indicated a degree of compaction of between about 89 to 100 percent of the standard Proctor maximum dry density. The project Specifications do not specify a required degree of compaction to be achieved for these layers. However, during construction the project design engineer indicated that the material should be compacted to 80 percent of the standard Proctor maximum dry density.

The results of the field density testing are presented in Appendix F (Section F-5).

6.5 Rip-Rap

The rip-rap material used at the site was obtained from the Thornton Quarry in Thornton, Illinois. GCS monitored the rip-rap placement on a periodic basis in conjunction with monitoring of the topsoil layer placement. GCS monitored the subcontractor's placement procedures to ensure that they did not result in damage to the underlying protective geotextile separation layer. No specific laboratory or field testing CQA activities were required in the project Specifications for this construction operation.

6.6 Topsoil Layer (Soil Type S5)

The topsoil material used at the facility was obtained by Dyer Construction, Inc. from three borrow sources. GCS periodically monitored the placement of the topsoil layer. GCS monitored the placement procedure used by the subcontractor to ensure that it did not result in damage to the approximately 2 foot wide edge of the protective geotextile separation fabric located on the surface of the protective soil layer situated around the perimeter of the impoundment closure. Based on GCS' review of the as-built drawing prepared by the project surveyor, the thickness of the topsoil was between 6 and 8 inches thick. This is within the tolerance of 6 inches (0.5 feet) to 8 inches (.67 feet) indicated in the project Specifications.

7.0 LABORATORY SOILS TESTING PROGRAM

An extensive laboratory testing program was conducted to verify that the constructed earthworks conformed with the requirements of the project Specifications. As outlined in the project Specifications the laboratory soil materials testing was to be carried out in three stages comprising:

- Testing to evaluate potential borrow sources;
- Construction testing for stockpiled soil materials; and
- Construction testing for in-place material.

However, during construction and as approved by the project design engineer, stockpiling of soil materials at the facility was typically not carried out by the contractor. As indicated in CWMCS letter dated September 1, 1993, the sampling and laboratory testing frequencies identified in the specifications for the stockpiled materials were to be carried out in conjunction with those outlined for testing of in-place materials. The testing frequencies and results for the "stockpiled" and "in-place" soil materials met the requirements of the project Specifications.

The following laboratory soils testing was carried out to evaluate potential borrow source materials of the structural fill (Soil Type S1), Cohesive Soil (Soil Type S2), Select Fill (Soil Type S3), and Protective Fill (Soil Type S4).

- Moisture Content (ASTM D2216)
- Particle Size (ASTM D1140, D422)
- Atterberg Limits (ASTM D4318)
- Laboratory Compaction (ASTM D698 - Standard Proctor)

In addition, remolded laboratory hydraulic conductivity testing (ASTM D5084) was carried out on the materials obtained from potential borrow sources and contemplated for use as cohesive soil. As required in the project Specifications, particle size, acidity (pH) and percent organic content testing was performed on material from potential borrow sources proposed for use as the topsoil layer at the facility.

The select fill and protective soil materials were obtained from the same borrow source.

The following laboratory tests were performed on samples obtained from the in-place compacted cohesive (clay) layer as construction proceeded:

- Particle Size (ASTM D422)
- Atterberg Limits (ASTM D4318)
- Hydraulic Conductivity (ASTM D5084)

The hydraulic conductivity testing was carried out on relatively undisturbed Shelby tube samples obtained during construction. In conjunction with the hydraulic conductivity testing, the moisture content and dry density were determined in the laboratory for each specimen.

Additional shelby tube samples were obtained by GCS as directed by the project design engineer during placement of additional cohesive material by the contractor. The additional shelby tubes and subsequent hydraulic conductivity testing were required in areas where additional work was carried out to replace or place additional cohesive soil to ensure that the thickness and grades at the surface of the cohesive layer would meet the project Specifications.

The results of the laboratory testing program for the initial borrow source evaluation and testing during construction for the individual soil layers are presented in Appendix G.

8.0 GEOSYNTHETIC MATERIALS

8.1 Geosynthetic Conformance Testing

Samples of the geomembrane, geonet and geotextile materials to be used in the closure cover construction of the surface impoundments were obtained by GCS for laboratory testing to verify conformance with the project Specifications. As clarified with the design engineer, no conformance testing of the protective geotextile separation fabric material used beneath the rip-rap was required.

The project documents require that conformance samples be obtained at a minimum frequency of one sample per lot and/or not less than one sample per 100,000 square feet for the geomembrane and geonet and one sample per 150,000 square feet for geotextile materials.

As agreed with CWMCS, two conformance samples from the six rolls of the 40 mil HDPE geomembrane which were to be shipped to the facility were obtained by GCS. A GCS monitor obtained the samples on June 1, 1993 from National Seal Company's manufacturing plant in Galesburg, Illinois. GCS inventoried the geosynthetic materials as they were received at the facility. The inventory was reviewed prior to conformance sampling of the geonet and geotextile so that representative samples could be obtained in accordance with the project specifications. Four samples of geonet and three samples of geotextile were obtained by GCS from the materials delivered to the facility in August, 1993. Additional samples of geonet and geotextile were required since the materials delivered to the facility were from multiple lots.

All of the geosynthetic conformance samples obtained were shipped to the GCS Geosynthetic Laboratory in Atlanta, Georgia. The tests were performed in accordance with the standard test procedures defined by The American Society for Testing and Materials (ASTM) and as required by the project Specifications.

The conformance test results were reviewed by GCS and compared to the project specifications. Based on the review , the representative conformance sample test results comply with the values in the project Specifications for the geomembrane and geonet and the values provided by the project engineer for the geotextile. A summary of the material conformance test results is provided in Appendix H.

8.2 Manufacturer's Quality Control Certificates and Documentation

The manufacturer's Quality Control (QC) certificates and associated documentation for the geosynthetic materials delivered to the facility were submitted to GCS for review and comparison with requirements outlined in the project Specifications. In cases where the initial review of the manufacturers required documentation was noted to be incomplete, personnel for CWM, CWMCS and the contractor were advised. A subsequent review was carried out by GCS when the additional QC documentation was received. The review of the QC certificates submitted indicated that the test values shown met or exceeded the project requirements. Further, the other required QC documentation submitted by the manufacturer was in substantial compliance with the project requirements. In conjunction with the production of the geomembrane and geonet, representatives of CWMCS and REI conducted an inspection of the National Seal Company plant in Galesburg, Illinois.

The manufacturer's Quality Control Certificates and other required submittals from the resin and geosynthetic manufacturers are presented in Appendix I. The summary of the REI/CWMCS inspection of the National Seal Company manufacturing plant in Galesburg, Illinois is also presented in Appendix I (Section I-6).

9.0 GEOMEMBRANE INSTALLATION QUALITY ASSURANCE MONITORING

The GCS monitoring staff for the geomembrane installation for the closure cover consisted of the Resident CQA Officer, and two geosynthetic monitors. A listing of the GCS and NSC on-site personnel is presented in Appendix A. The project geomembrane installation quality assurance duties performed by GCS personnel included:

- inventory the geosynthetic materials delivered to the facility;
- visual observation of geomembrane deployment, documentation of geomembrane panel quality and field thickness measurements of the panels deployed;
- observation and documentation of trial seam procedures and evaluation of test results;
- observation and documentation of both the fusion and extrusion welded field seams and seaming operations;
- observation and documentation of non-destructive seam continuity testing;
- identification of defects and observation and documentation of repairs; and
- location of seam strength destructive tests and evaluation of test results.

Detailed descriptions of each of the above duties are presented in the following sections.

9.1 Geosynthetic Materials Inventory

Upon delivery to the facility an inventory of the geosynthetic materials was carried out by GCS. The inventory was used to confirm that the rolls of geomembrane shipped to the facility matched the quality control certification documentation for the rolls submitted by the manufacturer prior to delivery. The inventory was also used to select representative samples of the geonet and geotextile materials for laboratory conformance testing.

A copy of the geosynthetic material inventory prepared by GCS and the shipping Bill of Lading for the materials which were provided by RRS to GCS are presented in Appendix J.

9.2 Deployment Monitoring

Prior to deployment of the geomembrane panels for the closure cover, the subgrade surface was examined by GCS, RRS, DYER and NSC to verify that the surface was free of protrusions, desiccation cracks, voids or deleterious material which would be detrimental to the geomembrane. The term "subgrade" refers to the top surface of the cohesive (clay) layer. If the condition of the subgrade was considered acceptable by the installer, deployment of the geomembrane panels proceeded. Certificates of Completion of Soil Subgrade Surface were submitted by NSC in the areas of geomembrane deployment. Copies of these certificates are provided in Appendix K (Section K-1).

Deployment of the geomembrane panels was carried out using a rubber-tired front end loader and/or manual labor. Following panel deployment, the installer aligned the panels and began welding the seams. The free edges of the geomembrane panels were temporarily weighted with sandbags until they were permanently joined.

Each panel was visually monitored by GCS for the presence of manufacturing defects and deployment damage. Any defects observed and marked were subsequently repaired. The thickness of each geomembrane panel deployed was measured by GCS. The measurements consisted of using a micrometer to take thickness measurements along the lead and trail ends of the panel and on one side of each panel.

A table summarizing geomembrane panel deployment monitoring is presented in Appendix K (Section K-2). A plan view of the panel layout of the geomembrane installed is presented as Figure 2.

9.3 Trial Seam Monitoring

Geomembrane trial seaming was performed by the NSC technicians approximately every four to five hours to monitor the fusion and extrusion seaming devices (welding machines) and operators under daily site conditions. Two specimens from each trial seam were typically field tested by NSC, using a tensiometer for peel adhesion (peel) consistent with the requirements of the CQA plan and project Specifications. Summaries of the trial seams for both the fusion and extrusion methods are presented in Appendix L. Figures depicting the codes used to classify the failure modes for test specimens are also included in Appendix L. A copy of the certificate of calibration for the field tensiometer provided by NSC is presented in Appendix L (Section L-3).

9.4 Seam Monitoring

The principal seaming method used for joining of the geomembrane panels was the automated double track fusion process. The extrusion method was used for patches, repairs and, intersection of fusion seams. The extrusion method was also used to weld the rainflap/skirt around the perimeter of the impoundment basins onto the closure cover geomembrane.

Monitoring of the seaming methods consisted of visual observation of the seaming procedure, visual examination of the completed seam and verification that the seam was welded for its entire length. Seaming imperfections were marked and subsequently repaired in accordance with the project Specifications. Summaries of the fusion and extrusion seam monitoring observations are presented in Appendix M.

9.5 Non-Destructive Seam Continuity Testing and Repair Monitoring

All seams, seam repairs and patches were non-destructively tested for continuity by the installer using the air pressure method for double track fusion seams and the vacuum box method for the extrusion seams. Each repair was assigned a unique number to facilitate data tracking and location of all repairs.

GCS observed the testing procedures and documented the progress of all non-destructive continuity testing. At locations where the continuity testing indicated an imperfection, repairs were made and retested in accordance with the project Specifications.

A summary of the defect and repair monitoring carried out by GCS is presented in Appendix N.

9.6 Destructive Seam Strength Testing

Destructive seam strength testing was conducted in accordance with the project Specifications at the specified minimum frequency of one test per 500 feet of seam. The minimum frequency as discussed in the CQA Plan was to be determined as an average taken throughout the entire facility.

During geomembrane installation carried out to complete the closure cover, a total of sixteen initial seam destructives were obtained from approximately 7,635 linear feet of completed field seams, resulting in a sampling frequency of one test per 477 linear feet of fusion welding. A total of three initial seam destructive strength tests were performed on 1,164 feet of extrusion welding. The length of extrusion welding is based on the weld length of the rainflap/skirt to the geomembrane. The resulting frequency is one sample per 388 feet of completed extrusion seam.

In the event of a destructive test failure the welding machine's path was tracked in the backward and forward directions at intervals of at least ten feet until a passing strength result was achieved. The seamer's path was reconstructed between the two bounding passing tests. Destructive seam strength sample locations are shown on the Geomembrane Panel Layout drawing presented as Figure 2.

For each destructive test sample, two supplementary specimens were removed and tested in the field by the installer. If the specimen passed field testing, the sample was removed and shipped to the GCS Geosynthetic Laboratory for testing in accordance with the project Specifications. Each destructive sample was divided into three sections: one section was retained by NSC, the second retained by CWMCS, and the third section was utilized for testing by GCS.

The destructive samples were divided into ten specimens, five for bonded seam strength (shear) testing and five for peel adhesion (peel) testing. Both the inner and outer seams of the fusion welds were tested. The specified acceptance criteria as outlined in the project Specifications is that 4 out of 5 specimens have peel strengths of greater than or equal to 60 pounds per inch (ppi) for fusion seams and 52 ppi for extrusion seams and that seam separation shall not extend more than 10 percent of the seam width into the seam. The acceptance criteria for bonded shear strength was that 4 out of 5 specimens must have bonded seam strengths greater than or equal to 88 ppi for the 40 mil HDPE geomembrane and that the sheet shall yield before failure of the seam (Film Tear Bond). Upon discussion and clarification with the project design engineer, the acceptance criteria for the rainflap/skirt extrusion weld was based only on the sheet yielding before failure of the seam.

Of the sixteen initial fusion seam destructive test samples taken, two failed laboratory testing. The two failing samples resulted in performing four tracking destructives tests. Three of the four tracking destructives passed laboratory testing. One additional tracking destructive was obtained to bound the failure. This tracking passed laboratory testing.

Of the three initial extrusion seam destructive test samples taken, one failed NSC pre-qualification field testing. Two of the initial extrusion seam samples passed laboratory testing. The one failing sample obtained from the extrusion weld along the rainflap/skirt resulted in performing two tracking destructives, both of which passed.

Prior to the discussion between GCS and REI regarding the acceptance criteria for the extrusion weld seam destructive on the rainflap/skirt, the archive portion (Sample DX-2N (archive)) of the original tracking destructive (Sample DX-2N1) was tested. Upon clarification of the acceptance criteria for this particular weld, both the original and archive portion of tracking destructive passed the acceptance criteria established for the non-production rainflap/skirt extrusion seam.

Summaries of the destructive test results are presented in Appendix O. Figures depicting the codes used to classify the failure modes for test specimens are also included in Appendix O.

10.0 GEONET INSTALLATION QUALITY ASSURANCE MONITORING

The CQA procedures employed by GCS during the installation of the geonet material installed above the geomembrane liner consisted of:

- Visual examination of panel quality;
- Monitoring of panel overlap; and
- Monitoring of panel joining.

Geonet panels were visually examined for any damage which might have occurred during transport and deployment. Any damaged areas observed were repaired by patching.

Adjacent panels of geonet were overlapped a minimum of four inches along the roll length and along the roll width. The geonet panels were joined with white nylon cable ties. Cable tie spacings were typically five feet on centers along the roll length.

11.0 GEOTEXTILE INSTALLATION QUALITY ASSURANCE PROCEDURES

The geotextile installation quality assurance monitoring procedures which GCS performed on the project included:

- visual observation of geotextile panels installed above the geomembrane and geonet and the protective/separation geotextile installed beneath the rip-rap layer around the perimeter of the closure area;
- monitoring of panel overlaps; and
- monitoring of seams and seaming operations.

The geotextile panels placed above the geomembrane and geonet layers were installed with a nominal overlap of six inches. All adjacent geotextile panels were sewn together in accordance with the project Specifications. The seams were continuously sewn using a lock stitch sewing machine equipped with nylon thread. All seams were visually observed for continuity of the sewing operation. Any deficiencies noted in the seaming and/or any damage to the geotextile panels were repaired in accordance with the project Specifications.

GCS also monitored the placement of the protective geotextile separation fabric installed on the sideslopes of the protective and select fill soil layers around the perimeter of the closure area prior to placement of the rip-rap material. The geotextile panels were installed in accordance with the detail shown on the design drawings. Adjacent panels were overlapped a minimum of six inches. As clarified by the project design engineer the seams for the geotextile were thermally (heat) bonded. GCS observed the bonded seams to confirm the continuity of the seams. In instances where a heat bonded seam was not considered adequate, the installer carried out additional work to correct the deficiency. The additional work consisted of heat bonding a patch at the affected area.

12.0 VEGETATION COVER MONITORING

The vegetation quality assurance duties performed by GCS during this project included:

- visual observation of fertilizing and harrowing the topsoil;
- visual observation of seeding;
- visual observation of dry hay mulching and mulch crimping; and
- receipt of the contractors submittals for the vegetation cover.

Fertilizer was broadcast over the topsoil surface and incorporated into the soil with a harrow. The seed was a blend of Kentucky 31 Tall Fescue, Annual Rye grass, Kentucky Bluegrass and White Dutch Clover. This alternative seed mix was approved for use by the project design engineer. The final surface was mulched with dry hay blown into place and anchored with a mulch crimper.

Based on the submittals provided to GCS by RRS and the clarification provided by the project design engineer (see Appendix B) it is understood that the fertilizer used is acceptable.

The actual application rate for the seed mixture was approximately 125 pounds per acre based on a nominal area 2.4 acres. The project Specifications require an application rate of 100 pounds per acre (minimum) for the pure live seed mixture.

Based on information provided to GCS by RRS the application rate for dry hay mulch was determined to be 2.45 tons/acre. The required application rate is 2.0 tons/acre (minimum).

The delivery tickets for the grass seed and the submittals for the fertilizer, grass and hay mulch are presented in Appendix P.

13.0 PHOTOGRAPHIC DOCUMENTATION

During construction, photographs documenting the surface impoundment closure construction activities at the facilities were obtained by GCS. Photographs documenting conditions before and during closure activities are presented in Appendix Q.

14.0 RECORD SURVEYS

Consistent with the project requirements a survey plat showing the location of the surface impoundment basins prior to the start of the closure construction activities was prepared by National Survey Service, Inc. The Plat of Survey and Plat of Topography prepared by the surveyor prior to the start of closure cover construction are presented in Appendix R as drawings numbered 1 and 2, respectively. In addition, record level surveys were conducted during the closure construction activities in order to prepare as-built drawings on the surface of the cured, solidified sludge material and at the surface of the structural, cohesive, select/protective and topsoil component layers and at the surface of the geotextile layer. The level surveys were carried out by National Survey Service, Inc. The as-built surveys were typically conducted on a fixed 50 foot grid with intermediate elevations taken at significant locations such as the top and toe of slopes and inside edge of anchor trench. The results of the survey are presented on six drawings numbered 3 to 8, inclusive which are included in Appendix R.

The surveys indicate that the cohesive clay layer within the limits of the inside edge of the anchor trench at a minimum, two feet thick, the combined select/protective soil layer is at a minimum, three feet thick and the topsoil layer is at a minimum, six inches thick.

The surveyor has certified that the overall grades at the top of the cohesive soil layer, select/protective soil and topsoil layer are between 4.8 and 5 percent with a clarification provided by the project design engineer during construction (see Appendix B). A copy of the surveyors certification letter dated December 13, 1993 is presented in Appendix R. Consistent with the note "Ease to fit" indicated on project drawing M1695-C-04, the surface grades at the four corners of the top surface of the topsoil layer are somewhat less than five percent.

Two cross-sections showing the as-built soil and geosynthetic layers, using the information from the surveyors as-built survey drawings, are presented as Figures S-1 and S-2 in Appendix S.

15.0 PRECIPITATION RUN-OFF

As requested by CWMCS, and due to agreements made with the IEPA and documented in a June 14, 1993 letter to Mr. J. Moore, IEPA from Ms. L. Grassl, CWMCS (see Appendix B), GCS has included in Appendix T of this report the text prepared by CWMCS which describes the details and presents further information of the precipitation run-off events which occurred at the site. Also included in Appendix T are the results of the analytical testing carried out by CWM (Riverdale) - Northern Region Laboratory for the surface impoundment run-off water associated with the precipitation events.

16.0 SUMMARY

GCS was retained by Chemical Waste Management, Inc. to provide third party construction quality assurance services during the construction of the interim status closure of the four interim status surface impoundments at the CWM Chemical Services, Inc. Chicago Incinerator facility in Chicago, Illinois. The elements of construction monitored included the decontamination pad, sludge solidification, placement of various soil layers, geosynthetic components, rip-rap and vegetative cover (seeding and mulching) activities.

The quality assurance program included:

- observation of decontamination pad construction, and concrete testing;
- observation and testing of the sludge solidification activities in the northeast and southeast basins;
- observation of construction, and testing of the structural fill;
- observation of construction, and testing of cohesive test fill and cohesive soil layer;
- observation of construction, and testing of the compacted clay liner;
- monitoring of geomembrane deployment, seaming, non-destructive seam continuity testing, and destructive seam strength testing;
- monitoring of geonet deployment and joining;
- monitoring of geotextile deployment and seaming;
- observation and testing of the select/protective soil layer construction;
- observation of the perimeter protective geotextile separation fabric and rip-rap placement;
- observation and testing of the topsoil layer; and
- observation of fertilizer, seed and mulch placement activities.

Based on the laboratory and field tests conducted, the observations made by GCS, the record as-built survey drawings provided by National Survey Services, Inc. and the information presented in this report, it is concluded that the interim status closure of the four surface impoundments at the Chicago Incinerator facility have been constructed in substantial compliance with the project Specifications.

GOLDER CONSTRUCTION SERVICES, INC.

for Hugh H. Armitage
Project Manager

David M. List, P.E.
Senior Engineer

DAVID M. LIST
REGISTERED PROFESSIONAL ENGINEER OF
STATE OF ILLINOIS

HHA/RRT/DML:dld

APPENDIX E-9

GROUNDWATER MONITORING ANALYTICAL RESULTS
THIRD AND FOURTH QUARTER, 1995

CWM Chemical Services, Inc.
Chicago Incinerator
11700 S. Stony Island Ave
Chicago, IL 60617
312 646-5700

November 11, 1994

Mr. Ken Liss
Illinois Environmental Protection Agency
1340 North 9th Street
Springfield, IL 62702

RE: CWM Chemical Services, Inc.
Post-Closure Groundwater Monitoring
Fourth Quarter 1994 State Forms

Dear Mr. Liss:

Please find attached, the fourth quarter, 1994 State Forms for the post-closure groundwater monitoring program at the CWM Chemical Services, Inc. Chicago Incinerator facility. The data provided includes the analytical results from both the upgradient and downgradient monitoring wells.

As required by our approved post-closure groundwater monitoring plan, the water elevation for Lake Calumet for the dates on which groundwater samples were obtained, are as follows:

October 3, 1994	580.17 feet mean sea level
October 4, 1994	580.11 feet mean sea level

If there are any questions on this data, please contact me at (312) 646-5700.

Sincerely,

Lisa Brassel for

John Connolly
Acting Facility Manager
CWM Chemical Services, Inc.

cc: Bob LaBoube
Brian Clarke
Gino Bruni - IEPA Maywood
Richard Carlson - Carlson Environmental
Frank Kudrna - Kudrna & Associates
4th Quarter GW Files

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE: 01/15/95 (36 M D Y 41)

FEDERAL ID NUMBER: ILD000672121

SITE INVENTORY NUMBER: 0316000058 (9–18)
MONITOR POINT NUMBER (see Instructions): G 2 0 S (G120S) (19–22)

REGION: N   CO.: Cook
DATE COLLECTED: 10/03/94 (23 M D Y 28)

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED __/__/__ (42 M D Y 47)

BACKGROUND SAMPLE (X): X (64)
TIME COLLECTED (24 Hr. Clock): 13:55 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions): ____ (59)

MONITOR POINT SAMPLED BY (see Instructions): F (60)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X): X (61)   ORGANICS (X): ____ (62)

SAMPLE APPEARANCE (63): FOAMY, STRONG ODOR, GREY, VERY CLOUDY (102)

COLLECTOR COMMENTS (103): STICK-UP=0.18 FT (142)

LAB COMMENTS (160): ____ (199)

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				59.2
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				586.27
Q	DEPTH TO WATER (ft below LS)	72019				6.79
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.05
Q	DEPTH TO WATER FR MEA PT (ft)	72109				7.57
Q	TOTAL WELL DEPTH (ft, below LS)	72008				20.01
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400 (30–34)	(35)	1 (36)	(37)	7.05 (38–47)
Q	pH - Field	00400		2		6.98
Q	pH - Field	00400		3		6.99
Q	pH - Field	00400		4		7.05
Q	SPEC COND - Field (umhos)	00094		1		2980.
Q	SPEC COND - Field (umhos)	00094		2		2990.
Q	SPEC COND - Field (umhos)	00094		3		3010.
Q	SPEC COND - Field (umhos)	00094		4		2960.
Q	Fluoride (Diss) mg/L					0.49
Q	Aluminum (Total) ug/L					4080.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					154.
Q	Sodium (Dissolved) mg/L					156.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
						.
						.
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						.
						.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

LPC 160 1/90 (CONT)

Printed on Recycled Paper

IEPA/DLPC

CHEMICAL ANALYSIS FORM

-ORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. COOK

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620 (30–34)	(35)	(36)	(37)	(38–47)
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				329.
Q	IRON (TOTAL) ug/L	01045				28000.
Q	IRON (DISS) ug/L	01046				20000.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	98.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	20.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
A	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				65.5
Q	ARSENIC (DISS.)	01000				63.4
Q	BARIUM (TOTAL)	01007				1430.
Q	BARIUM (DISS.)	01005				1370.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
A	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 1 0/0 3/9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
A	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520 (30–34)	(35)	(36)	(37)	. (38–47)
Q	CHROMIUM (TOTAL)	01034				43.6
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320				.
A	COBALT (TOTAL)	01037				.
A	COBALT (DISS.)	01035				.
Q	COPPER (TOTAL)	01042	U		<	25.0
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				.
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720				21.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730				.
A	4,4-DDD	39310				.
A	4,4,-DDE	39320				.
A	4,4,-DDT	39300				.
A	DIALLATE	73540				.
A	DIBENZ (a,h) ANTHRACENE	34556				.
A	DIBENZOFURAN	81302				.
A	DIBROMOCHLOROMETHANE	32105				.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				.
A	1,2-DIBROMOETHANE	77651				.
A	Di-n-BUTYL PHTHALATE	39110				.
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				.
A	p-DICHLOROBENZENE	34571				.
A	3,3-DICHLOROBENZIDINE	34631				.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2 (1–7) TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER: G 2 0 S (19–22)

CO. Cook DATE COLLECTED: 10/03/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	6.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582 (30–34)	U (35)	(36)	< (37)	68. (38–47)
A	DIPHENYLAMINE	77579				.
A	DISULFOTON	81888				.
A	ENDOSULFAN I	34361				.
A	ENDOSULFAN II	34356				.
A	ENDOSULFAN SULFATE	34351				.
A	ENDRIN	39390				.
A	ENDRIN ALDEHYDE	34366				.
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				.
A	ETHYL METHANESULFONATE	73571				.
A	FAMPHUR	38462				.
A	FLUORANTHENE	34376				.
A	FLUORENE	34381				.
A	HEPTHACHLOR	39410				.
A	HEPTACHLOR EPOXIDE	39420				.
A	HEXACHLOROBENZENE	39700				.
A	HEXACHLOROBUTADIENE	39702				.
A	HEXACHLOROCYCLOPENTADIENE	34386				.
A	HEXACHLOROETHANE	34396				.
A	HEXACHLOROPHENE	73575				.
A	HEXACHLOROPROPENE	73576				.
A	2-HEXANONE	77103				.
A	INDENO (1,2,3-cd)PYRENE	34403				.
A	ISOBUTYL-ALCOHOL	77033				.
	ISODRIN	39430				.
A	ISOPHORONE	34408				.
A	ISOSAFROLE	73582				.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281 (30–34)	(35)	(36)	(37)	. (38–47)
Q	LEAD (TOTAL)	01051				17.2
Q	LEAD (DISS.)	01049	U		<	5.0
Q	MERCURY (TOTAL)	71900	U		<	0.20
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				.
A	METHAPYRILENE	73589				.
A	METHOXCHLOR	39480				.
	METHYL BROMIDE	34413				.
A	METHYL CHLORIDE	34418				.
A	3-METHYLCHOLANTHRENE	73591				.
A	METHYLENE BROMIDE	77596				.
Q	METHYLENE CHLORIDE	34423	U		<	6.
Q	METHYL ETHYL KETONE	81595				110.
A	METHYL IODIDE	77424				.
A	METHYL METHACRYLATE	81597				.
A	METHYL METHANESULFONATE	73595				.
A	2-METHYLNAPHTHALENE	77416				.
A	METHYL PARATHION	39600				.
Q	4-METHYL-2 PENTANONE	78133	U		<	16.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599				.
A	1,NAPHTHYLAMINE	73600				.
A	2,NAPHTHYLAMINE	73601				.
Q	NICKEL (TOTAL)	01067	U		<	40.0
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				.
A	m-NITROANILINE	78300				.

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE: L | P | C | S | M | 0 | 2 (1–7)

TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER: G 2 0 S (19–22)

CO.: Cook

DATE COLLECTED: 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB: ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	20.
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB 2 (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
A	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 19 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	0,0,0-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087	U		<	50.0
Q	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				112.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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IL 532 1213

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE 0 1 / 1 5 / 9 5 (36 M D Y 41)

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER (see Instructions) G 2 1 S (G121S) (19–22)

REGION N CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)

TIME COLLECTED (24 Hr. Clock) 0 7 : 5 5 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions) ____ (69)

MONITOR POINT SAMPLED BY (see Instructions) F (60)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61)   ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) STRONG ODOR YELLOW TAN SLIGHT TURBIDITY (102)

COLLECTOR COMMENTS (103) STICK-UP=0.62 FEET (142)

LAB COMMENTS (160) ____ (199)

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				56.1
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.13
Q	DEPTH TO WATER (ft below LS)	72019				11.14
Q	BTM OF WELL ELEV (ft ref MSL)	72020				573.25
Q	DEPTH TO WATER FR MEA PT (ft)	72109				11.76
Q	TOTAL WELL DEPTH (ft Below LS)	72008				20.02
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this [illegible]

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G21S

DATE COLLECTED 10/04/94

CO. Cook

CWM Chemical Services, Inc.
FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field		00400		1		7.83
Q	pH - Field		00400		2		7.86
Q	pH - Field		00400		3		7.92
Q	pH - Field		00400		4		7.90
Q	SPEC COND - Field (umhos)		00094		1		13200.
Q	SPEC COND - Field (umhos)		00094		2		13300.
Q	SPEC COND - Field (umhos)		00094		3		13100.
Q	SPEC COND - Field (umhos)		00094		4		13000.
Q	Fluoride (Diss)	mg/L					1.94
	Aluminum (Total)	ug/L					826.
Q	Aluminum (Dissolved)	ug/L		U		<	200.
Q	Sodium (Total)	mg/L					2810.
Q	Sodium (Dissolved)	mg/L					2710.
A	2,3,7,8-TCDD	ng/L					
A	2,3,7,8-TCDF	ng/L					
A	PCB Aroclor 1016	ug/L					
A	PCB Aroclor 1221	ug/L					
A	PCB Aroclor 1232	ug/l					
A	PCB Aroclor 1242	ug/L					
A	PCB Aroclor 1248	ug/L					
A	PCB Aroclor 1254	ug/L					
A	PCB Aroclor 1260	ug/L					

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*Only Keypunch with Data in Column 35 or Columns 38-47

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LPC 160 1/90 (CONT)

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EPA/DLPC

CHEMICAL ANALYSIS FORM

D CODE: L | P | C | S | M | 0 | 2 (1–7)   TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER: G 2 1 S (19–22)

CO.: COOK   DATE COLLECTED: 10/04/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	NITRATE AS N (TOTAL)		00620				
	NITRATE AS N (DISS)		00618				
	BORON (TOTAL)		01022				
	BORON (DISS)		01020				
	CHLORIDE (TOTAL)		00940				
Q	CHLORIDE (DISS)	mg/L	00941				5190.
Q	IRON (TOTAL)	ug/L	01045				9080.
Q	IRON (DISS)	ug/L	01046				1790.
	MANGANESE (TOTAL)		01055				
	MANGANESE (DISS)		01056				
	TOTAL DISSOLVED SOLIDS (TDS)		70300				
	SULFATE (TOTAL)		00945				
	SULFATE (DISS)		00946				
	ALACHLOR		77825				
	ALDICARB		39053				
	ATRAZINE		39033				
	CARBOFURAN		81405				
	CIS-1,2-DICHLOROETHYLENE		77093				
	MONOCHLOROBENZENE		34301				
	PHENOLS		32730				
	PCBs (AS DECACHLORO-BIPHENYL)		39516				
	XYLENES (META, PARA, ORTHO)		34020				

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*Only [illegible]

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)
TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)
MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook
DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME
LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	98.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	50.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	20.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				20.0
Q	ARSENIC (DISS.)	01000	U		<	14.0
Q	BARIUM (TOTAL)	01007				801.
Q	BARIUM (DISS.)	01005				711.
Q	BENZENE	34030				280.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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Only Keypunch with Data in Column 35 or Columns 38-47

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CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529				290.
Q	CHLOROBENZENE	34301				54.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
A	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				.
Q	CHROMIUM (TOTAL)	01034				251.
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320				.
A	COBALT (TOTAL)	01037				.
A	COBALT (DISS.)	01035				.
Q	COPPER (TOTAL)	01042	U		<	25.0
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				.
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730				.
A	4,4-DDD	39310				.
A	4,4,-DDE	39320				.
A	4,4,-DDT	39300				.
A	DIALLATE	73540				.
A	DIBENZ (a,h) ANTHRACENE	34556				.
A	DIBENZOFURAN	81302				.
A	DIBROMOCHLOROMETHANE	32105				.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				.
A	1,2-DIBROMOETHANE	77651				.
A	Di-n-BUTYL PHTHALATE	39110				.
Q	O-DICHLOROBENZENE	34536	U		<	16.
	m-DICHLOROBENZENE	34566				.
A	p-DICHLOROBENZENE	34571				.
A	3,3-DICHLOROBENZIDINE	34631				.

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CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	6.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	16.
Q	2,6-DICHLOROPHENOL	77541	U		<	20.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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CHEMICAL ANALYSIS FORM

ɔRD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	1,4-DIOXANE	81582				180.
A	DIPHENYLAMINE	77579				
A	DISULFOTON	81888				
A	ENDOSULFAN I	34361				
A	ENDOSULFAN II	34356				
A	ENDOSULFAN SULFATE	34351				
A	ENDRIN	39390				
A	ENDRIN ALDEHYDE	34366				
	ETHYLBENZENE	78113				10.
A	ETHYL METHACRYLATE	73570				
A	ETHYL METHANESULFONATE	73571				
A	FAMPHUR	38462				
A	FLUORANTHENE	34376				
A	FLUORENE	34381				
A	HEPTHACHLOR	39410				
A	HEPTACHLOR EPOXIDE	39420				
A	HEXACHLOROBENZENE	39700				
A	HEXACHLOROBUTADIENE	39702				
A	HEXACHLOROCYCLOPENTADIENE	34386				
A	HEXACHLOROETHANE	34396				
A	HEXACHLOROPHENE	73575				
A	HEXACHLOROPROPENE	73576				
A	2-HEXANONE	77103				
A	INDENO (1,2,3-cd)PYRENE	34403				
A	ISOBUTYL-ALCOHOL	77033				
	ISODRIN	39430				
A	ISOPHORONE	34408				
A	ISOSAFROLE	73582				

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EPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 1 S

CO. Cook

DATE COLLECTED 10/04/94

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051	U		<	18.0
Q	LEAD (DISS.)	01049	U		<	18.0
Q	MERCURY (TOTAL)	71900	U		<	0.20
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOYCHLOR	39480				
	METHYL BROMIDE	34413				
A	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423	U		<	6.
Q	METHYL ETHYL KETONE	81595				82.
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133	U		<	16.
Q	NAPHTHALENE	34696	U		<	16.
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
Q	NICKEL (TOTAL)	01067				104.
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 1 S

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730	U		<	16.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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EPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	50.
A	PYRENE	34469				.
A	PYRIDINE	77045				.
A	SAFROLE	77545				.
A	SELENIUM (TOTAL)	01147				.
A	SELENIUM (DISS.)	01145				.
A	SILVER (TOTAL)	01077				.
A	SILVER (DISS.)	01075				.
	SILVEX	39760				.
	STYRENE	77128				.
Q	SULFIDE (TOTAL)	00745				.
A	2,4,5-T	39740				.
A	1,2,4,5 TETRACHLOROBENZENE	77734				.
A	1,1,1,2-TETRACHLOROETHANE	77562				.
A	1,1,2,2-TETRACHLOROETHANE	34516				.
A	TETRACHLOROETHYLENE	34475				.
A	2,3,4,6-TETRACHLOROPHENOL	77770				.
A	SULFOTEPP	82201				.
A	THALLIUM (TOTAL)	01059				.
A	THALLIUM (DISS.)	01057				.
A	TIN (TOTAL)	01102				.
A	TIN (DISS.)	01100				.
Q	TOLUENE	34010				7.
A	o-TOLUIDINE	77142				.
A	TOXAPHENE	39400				.
	1,2,4-TRICHLOROBENZENE	34551				.
A	1,1,1-TRICHLOROETHANE	34506				.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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CHEMICAL ANALYSIS FORM

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TRANS CODE | A | (8)

ITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 1 S (19–22)

O. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB 2 (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				.
A	PYRENE	34469				.
A	PYRIDINE	77045				.
A	SAFROLE	77545				.
A	SELENIUM (TOTAL)	01147				.
A	SELENIUM (DISS.)	01145				.
A	SILVER (TOTAL)	01077				.
A	SILVER (DISS.)	01075				.
	ILVEX	39760				.
	STYRENE	77128				.
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				.
A	1,2,4,5 TETRACHLOROBENZENE	77734				.
A	1,1,1,2-TETRACHLOROETHANE	77562				.
A	1,1,2,2-TETRACHLOROETHANE	34516				.
A	TETRACHLOROETHYLENE	34475				.
A	2,3,4,6-TETRACHLOROPHENOL	77770				.
A	SULFOTEPP	82201				.
A	THALLIUM (TOTAL)	01059				.
A	THALLIUM (DISS.)	01057				.
A	TIN (TOTAL)	01102				.
A	TIN (DISS.)	01100				.
Q	TOLUENE	34010				.
A	o-TOLUIDINE	77142				.
A	TOXAPHENE	39400				.
	1,2,4-TRICHLOROBENZENE	34551				.
A	1,1,1-TRICHLOROETHANE	34506				.
Q	1,1,2-TRICHLOROETHANE	34511				.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 1 S (22)

CO. Cook

DATE COLLECTED 10/04/1994 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				.
A	TRICHLOROFLUOROMETHANE	34488				.
A	2,4,5-TRICHLOROPHENOL	77687				.
A	2,4,6-TRICHLOROPHENOL	34621				.
A	1,2,3-TRICHLOROPROPANE	77443				.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				.
A	SYM-TRINITROBENZENE	73653				.
Q	VANADIUM (TOTAL)	01087	U		<	50.0
	VANADIUM (DISS.)	01085	U		<	50.0
A	VINYL ACETATE	77057				.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				101.
Q	ZINC (DISS.)	01090	U		<	20.
A	TETRACHLORODIBENZO-p-DIOXINS ng/l	34675				.
A	PENTACHLORODIBENZO-p-DIOXINS ng/l	90000				.
A	HEXACHLORODIBENZO-p-DIOXINS ng/l	90001				.
A	TETRACHLORODIBENZOFURANS ng/l	90002				.
A	PENTACHLORODIBENZOFURANS ng/l	90003				.
A	HEXACHLORODIBENZOFURANS ng/l	90004				.
						.
						.
						.
						.
						.
						.
						.
						.

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 1 | TRANS CODE A

REPORT DUE DATE 0 1/1 5/9 5 (M D Y)

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 2 S (G122S) (see Instructions)

REGION N CO. Cook

DATE COLLECTED 1 0/0 4/9 4 (M D Y)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___ (M D Y)

BACKGROUND SAMPLE (X) X

TIME COLLECTED 0 8 : 2 5 (24 Hr. Clock) (H M)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions) ____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR, YELLOW TAN, MODERATE TURBIDIT

COLLECTOR COMMENTS STICK-UP=0.98 FEET

LAB COMMENTS

RECORD CODE L P C S M 0 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				57.0
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.38
Q	DEPTH TO WATER (ft below LS)	72019				10.87
	BTM OF WELL ELEV (ft ref MSL)	72020				573.54
Q	DEPTH TO WATER FR MEA PT (ft)	72109				11.85
Q	TOTAL WELL DEPTH (ft, below LS)	72008				19.71
						.

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 2 S

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	0 0 4 0 0		1		7.71
Q	pH - Field	0 0 4 0 0		2		7.69
Q	pH - Field	0 0 4 0 0		3		7.65
Q	pH - Field	0 0 4 0 0		4		7.63
Q	SPEC COND - Field (umhos)	0 0 0 9 4		1		9500.
Q	SPEC COND - Field (umhos)	0 0 0 9 4		2		9600.
Q	SPEC COND - Field (umhos)	0 0 0 9 4		3		9720.
Q	SPEC COND - Field (umhos)	0 0 0 9 4		4		9600.
Q	Fluoride (Diss) mg/L					1.35
	Aluminum (Total) ug/L					9930.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					1640.
Q	Sodium (Dissolved) mg/L					1740.
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. COOK DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)		00620 (30–34)	(35)	(36)	(37)	(38–47)
	NITRATE AS N (DISS)		00618				
	BORON (TOTAL)		01022				
	BORON (DISS)		01020				
	CHLORIDE (TOTAL)		00940				
Q	CHLORIDE (DISS)	mg/L	00941				3660.
Q	IRON (TOTAL)	ug/L	01045				32300.
Q	IRON (DISS)	ug/L	01046				191.
	MANGANESE (TOTAL)		01055				
	MANGANESE (DISS)		01056				
	TOTAL DISSOLVED SOLIDS (TDS)		70300				
	SULFATE (TOTAL)		00945				
	SULFATE (DISS)		00946				
	ALACHLOR		77825				
	ALDICARB		39053				
	ATRAZINE		39033				
	CARBOFURAN		81405				
	CIS-1,2-DICHLOROETHYLENE		77093				
	MONOCHLOROBENZENE		34301				
	PHENOLS		32730				
	PCBs (AS DECACHLORO-BIPHENYL)		39516				
	XYLENES (META, PARA, ORTHO)		34020				

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2 (1–7) TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER: G 2 2 S (19–22)

CO. Cook

DATE COLLECTED: 1 0 / 0 4 / 9 4 (23–28, M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	APPENDIX IX					
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	39.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				45.0
Q	ARSENIC (DISS.)	01000	U		<	14.0
Q	BARIUM (TOTAL)	01007				956.
Q	BARIUM (DISS.)	01005				550.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7)

TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027				6.1
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529	U		<	10
Q	CHLOROBENZENE	34301	U		<	5
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
A	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				500.
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
Q	COPPER (TOTAL)	01042				72.1
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				
A	p-DICHLOROBENZENE	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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ORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc. LAB ___ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582 (30–34)	U (35)	(36)	< (37)	50. (38–47)
A	DIPHENYLAMINE	77579				.
A	DISULFOTON	81888				.
A	ENDOSULFAN I	34361				.
A	ENDOSULFAN II	34356				.
A	ENDOSULFAN SULFATE	34351				.
A	ENDRIN	39390				.
A	ENDRIN ALDEHYDE	34366				.
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				.
A	ETHYL METHANESULFONATE	73571				.
A	FAMPHUR	38462				.
A	FLUORANTHENE	34376				.
A	FLUORENE	34381				.
A	HEPTHACHLOR	39410				.
A	HEPTACHLOR EPOXIDE	39420				.
A	HEXACHLOROBENZENE	39700				.
A	HEXACHLOROBUTADIENE	39702				.
A	HEXACHLOROCYCLOPENTADIENE	34386				.
A	HEXACHLOROETHANE	34396				.
A	HEXACHLOROPHENE	73575				.
A	HEXACHLOROPROPENE	73576				.
A	2-HEXANONE	77103				.
A	INDENO (1,2,3-cd)PYRENE	34403				.
A	ISOBUTYL-ALCOHOL	77033				.
	ISODRIN	39430				.
A	ISOPHORONE	34408				.
A	ISOSAFROLE	73582				.

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.   LAB ___ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				.
Q	LEAD (TOTAL)	01051				138.
Q	LEAD (DISS.)	01049	U		<	18.0
Q	MERCURY (TOTAL)	71900	U		<	0.20
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				.
A	METHAPYRILENE	73589				.
A	METHOXYCHLOR	39480				.
	METHYL BROMIDE	34413				.
A	METHYL CHLORIDE	34418				.
A	3-METHYLCHOLANTHRENE	73591				.
A	METHYLENE BROMIDE	77596				.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595				51.
A	METHYL IODIDE	77424				.
A	METHYL METHACRYLATE	81597				.
A	METHYL METHANESULFONATE	73595				.
A	2-METHYLNAPHTHALENE	77416				.
A	METHYL PARATHION	39600				.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599				.
A	1,NAPHTHYLAMINE	73600				.
A	2,NAPHTHYLAMINE	73601				.
Q	NICKEL (TOTAL)	01067				153.
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				.
A	m-NITROANILINE	78300				.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G22S

CO. Cook DATE COLLECTED 10/04/94

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook

DATE COLLECTED 1 0/0 4/9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB 2 (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, November 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 |

TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 2 S

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087				62.2
Q	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				306.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 1 TRANS CODE A

REPORT DUE DATE 01/15/95

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G23S (G123S) (see Instructions)

REGION N CO. Cook

DATE COLLECTED 10/03/94

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 13:05 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions) OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE MODERATE ODOR, GREY, MODERATE TURBIDITY

COLLECTOR COMMENTS STICK-UP=2.41 FEET

LAB COMMENTS

RECORD CODE L P C S M 0 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				61.3
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				587.03
Q	DEPTH TO WATER (ft below LS)	72019				4.69
	BTM OF WELL ELEV (ft ref MSL)	72020				573.35
Q	DEPTH TO WATER FR MEA PT (ft)	72109				7.10
Q	TOTAL WELL DEPTH (ft below LS)	72008				18.37
						.

IEPA/DLPC

CHEMICAL ANALYSIS FORM

ORD CODE L P C S M 0 2   TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8   MONITOR POINT NUMBER G 2 3 S

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.
FACILITY NAME   LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		8.31
Q	pH - Field	00400		2		8.36
Q	pH - Field	00400		3		8.36
Q	pH - Field	00400		4		8.36
Q	SPEC COND - Field (umhos)	00094		1		4840.
Q	SPEC COND - Field (umhos)	00094		2		4880.
Q	SPEC COND - Field (umhos)	00094		3		4870.
Q	SPEC COND - Field (umhos)	00094		4		4890.
Q	Flucride (Diss) mg/L					0.38
	Aluminum (Total) ug/L					741.
Q	Aluminum (Dissolved) ug/L		U		<	540.
Q	Sodium (Total) mg/L					469.
Q	Sodium (Dissolved) mg/L					515.
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1215
LPC 160 1/90 (CONT)

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:EPA/DLPC CHEMICAL ANALYSIS FORM

D CODE L P C S M 0 2 TRANS CODE A

:ITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 3 S

:O. COOK DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				1550.
Q	IRON (TOTAL) ug/L	01045				5060.
Q	IRON (DISS) ug/L	01046				140.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 3 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	98.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002	U		<	14.0
Q	ARSENIC (DISS.)	01000				12.4
Q	BARIUM (TOTAL)	01007				640.
Q	BARIUM (DISS.)	01005				585.
Q	BENZENE	34030				180.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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EPA/DLPC

CHEMICAL ANALYSIS FORM

ID CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529				41.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

ID CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				178.
Q	CHROMIUM (DISS.)	01030	U		<	50.0
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
Q.	COPPER (TOTAL)	01042	U		<	25.0
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				
A	p-DICHLOROBENZENE	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook DATE COLLECTED 10/03/94 (23–28; M D Y)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
		30 34	35	36	37	38 47
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	6.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	1,4-DIOXANE	81582				390.
A	DIPHENYLAMINE	77579				
A	DISULFOTON	81888				
A	ENDOSULFAN I	34361				
A	ENDOSULFAN II	34356				
A	ENDOSULFAN SULFATE	34351				
A	ENDRIN	39390				
A	ENDRIN ALDEHYDE	34366				
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				
A	ETHYL METHANESULFONATE	73571				
A	FAMPHUR	38462				
A	FLUORANTHENE	34376				
A	FLUORENE	34381				
A	HEPTHACHLOR	39410				
A	HEPTACHLOR EPOXIDE	39420				
A	HEXACHLOROBENZENE	39700				
A	HEXACHLOROBUTADIENE	39702				
A	HEXACHLOROCYCLOPENTADIENE	34386				
A	HEXACHLOROETHANE	34396				
A	HEXACHLOROPHENE	73575				
A	HEXACHLOROPROPENE	73576				
A	2-HEXANONE	77103				
A	INDENO (1,2,3-cd)PYRENE	34403				
A	ISOBUTYL-ALCOHOL	77033				
	ISODRIN	39430				
A	ISOPHORONE	34408				
A	ISOSAFROLE	73582				

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*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				8.1
Q	LEAD (DISS.)	01049	U		<	5.0
Q	MERCURY (TOTAL)	71900	U		<	0.20
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOXCHLOR	39480				
	METHYL BROMIDE	34413				
A	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423	U		<	6.
Q	METHYL ETHYL KETONE	81595	U		<	50.
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133	U		<	16.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
Q	NICKEL (TOTAL)	01067				117.
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 3 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730				38.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 3 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469				.
A	PYRIDINE	77045				.
A	SAFROLE	77545				.
A	SELENIUM (TOTAL)	01147				.
A	SELENIUM (DISS.)	01145				.
A	SILVER (TOTAL)	01077				.
A	SILVER (DISS.)	01075				.
	SILVEX	39760				.
	STYRENE	77128				.
Q	SULFIDE (TOTAL)	00745				.
A	2,4,5-T	39740				.
A	1,2,4,5 TETRACHLOROBENZENE	77734				.
A	1,1,1,2-TETRACHLOROETHANE	77562				.
A	1,1,2,2-TETRACHLOROETHANE	34516				.
A	TETRACHLOROETHYLENE	34475				.
A	2,3,4,6-TETRACHLOROPHENOL	77770				.
A	SULFOTEPP	82201				.
A	THALLIUM (TOTAL)	01059				.
A	THALLIUM (DISS.)	01057				.
A	TIN (TOTAL)	01102				.
A	TIN (DISS.)	01100				.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				.
A	TOXAPHENE	39400				.
	1,2,4-TRICHLOROBENZENE	34551				.
A	1,1,1-TRICHLOROETHANE	34506				.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB 2 (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2 (1–7) TRANS CODE: A (6)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–16) MONITOR POINT NUMBER: G 2 3 S (22)

CO. Cook DATE COLLECTED: 10/03/1994 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087	U		<	50.0
	VANADIUM (DISS.)	01085	U		<	50.0
A	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				83.7
Q	ZINC (DISS.)	01090	U		<	80.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/l	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/l	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/l	90001				
A	TETRACHLORODIBENZOFURANS ng/l	90002				
A	PENTACHLORODIBENZOFURANS ng/l	90003				
A	HEXACHLORODIBENZOFURANS ng/l	90004				

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L | P | C | S | M | 0 | 1

TRANS CODE A

REPORT DUE DATE 01/15/95

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G24S (G124S) (see Instructions)

REGION N CO. Cook

DATE COLLECTED 10/04/94

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 07:30 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions)

OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR, TAN, SLIGHT TURBIDITY

COLLECTOR COMMENTS STICK-UP=1.43 FEET

LAB COMMENTS

RECORD CODE L | P | C | S | M | 0 | 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				59.4
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.44
Q	DEPTH TO WATER (ft below LS)	72019				8.41
A	BTM OF WELL ELEV (ft ref MSL)	72020				572.56
	DEPTH TO WATER FR MEA PT (ft)	72109				9.24
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.29
						.

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		(30–34)	(35)	(36)	(37)	(38–47)
Q	pH - Field	00400		1		7.26
Q	pH - Field	00400		2		7.41
Q	pH - Field	00400		3		7.51
Q	pH - Field	00400		4		7.54
Q	SPEC COND - Field (umhos)	00094		1		4180.
Q	SPEC COND - Field (umhos)	00094		2		4800.
Q	SPEC COND - Field (umhos)	00094		3		4800.
Q	SPEC COND - Field (umhos)	00094		4		4810.
Q	Fluoride (Diss) mg/L					0.34
	Aluminum (Total) ug/L					2680.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					375.
Q	Sodium (Dissolved) mg/L					371.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
						.
						.
						.
						.
						.
						.

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EPA/DLPC CHEMICAL ANALYSIS FORM

ID CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 4 S

CO. COOK DATE COLLECTED 10/04/94

CWM Chemical Services, Inc.
FACILITY NAME LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				1530.
Q	IRON (TOTAL) ug/L	01045				15000.
Q	IRON (DISS) ug/L	01046				2660.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002	U		<	14.0
Q	ARSENIC (DISS.)	01000	U		<	14.0
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8   MONITOR POINT NUMBER G 2 4 S

CO. Cook   DATE COLLECTED 1 0/0 4/9 4

CWM Chemical Services, Inc.   LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
A	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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EPA/DLPC | CHEMICAL ANALYSIS FORM |

RECORD CODE: L P C S M 0 2 | TRANS CODE: A

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 | MONITOR POINT NUMBER: G 2 4 S

CO.: Cook | DATE COLLECTED: 10/04/94

CWM Chemical Services, Inc.
FACILITY NAME | LAB: ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (µg/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520				.
Q	CHROMIUM (TOTAL)	01034				70.2
Q	CHROMIUM (DISS.)	01030	U		<	10.
A	CHRYSENE	34320				.
A	COBALT (TOTAL)	01037				.
A	COBALT (DISS.)	01035				.
Q	COPPER (TOTAL)	01042	U		<	25.0
Q	COPPER (DISS.)	01040	U		<	25.0
Q	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152				.
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730				.
A	4,4-DDD	39310				.
A	4,4,-DDE	39320				.
A	4,4,-DDT	39300				.
A	DIALLATE	73540				.
A	DIBENZ (a,h) ANTHRACENE	34556				.
A	DIBENZOFURAN	81302				.
A	DIBROMOCHLOROMETHANE	32105				.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				.
A	1,2-DIBROMOETHANE	77651				.
A	Di-n-BUTYL PHTHALATE	39110				.
Q	O-DICHLOROBENZENE	34536				10.
	m-DICHLOROBENZENE	34566				.
A	p-DICHLOROBENZENE.	34571				.
A	3,3-DICHLOROBENZIDINE	34631				.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM Page 7 of 13

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ___ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 4 S

CO. Cook DATE COLLECTED 1 0 / 0 4 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582	U		<	50.
A	DIPHENYLAMINE	77579				.
A	DISULFOTON	81888				.
A	ENDOSULFAN I	34361				.
A	ENDOSULFAN II	34356				.
A	ENDOSULFAN SULFATE	34351				.
A	ENDRIN	39390				.
A	ENDRIN ALDEHYDE	34366				.
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				.
A	ETHYL METHANESULFONATE	73571				.
A	FAMPHUR	38462				.
A	FLUORANTHENE	34376				.
A	FLUORENE	34381				.
A	HEPTHACHLOR	39410				.
A	HEPTACHLOR EPOXIDE	39420				.
A	HEXACHLOROBENZENE	39700				.
A	HEXACHLOROBUTADIENE	39702				.
A	HEXACHLOROCYCLOPENTADIENE	34386				.
A	HEXACHLOROETHANE	34396				.
A	HEXACHLOROPHENE	73575				.
A	HEXACHLOROPROPENE	73576				.
A	2-HEXANONE	77103				.
A	INDENO (1,2,3-cd)PYRENE	34403				.
A	ISOBUTYL-ALCOHOL	77033				.
	ISODRIN	39430				.
A	ISOPHORONE	34408				.
A	ISOSAFROLE	73582				.

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*Only Keypunch with Data in Column 35 or Columns 38-47

EPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (6)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051	u		<	18.0
Q	LEAD (DISS.)	01049	u		<	18.0
Q	MERCURY (TOTAL)	71900	u		<	0.20
Q	MERCURY (DISS.)	71890	u		<	0.20
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOXCHLOR	39480				
	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423	u		<	5.
Q	METHYL ETHYL KETONE	81595	u		<	10.
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133	u		<	10.
Q	NAPHTHALENE	34696	u		<	10.
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
Q	NICKEL (TOTAL)	01067				45.1
	NICKEL (DISS.)	01065	u		<	40.0
A	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 4 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469				.
A	PYRIDINE	77045				.
A	SAFROLE	77545				.
A	SELENIUM (TOTAL)	01147				.
A	SELENIUM (DISS.)	01145				.
A	SILVER (TOTAL)	01077				.
A	SILVER (DISS.)	01075				.
A	SILVEX	39760				.
	STYRENE	77128				.
Q	SULFIDE (TOTAL)	00745				.
A	2,4,5-T	39740				.
A	1,2,4,5 TETRACHLOROBENZENE	77734				.
A	1,1,1,2-TETRACHLOROETHANE	77562				.
A	1,1,2,2-TETRACHLOROETHANE	34516				.
A	TETRACHLOROETHYLENE	34475				.
A	2,3,4,6-TETRACHLOROPHENOL	77770				.
A	SULFOTEPP	82201				.
A	THALLIUM (TOTAL)	01059				.
A	THALLIUM (DISS.)	01057				.
A	TIN (TOTAL)	01102				.
A	TIN (DISS.)	01100				.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				.
A	TOXAPHENE	39400				.
	1,2,4-TRICHLOROBENZENE	34551				.
	1,1,1-TRICHLOROETHANE	34506				.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

EPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 4 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB 2 (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

Analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, November 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER: G 2 4 S (19–22)

CO. Cook   DATE COLLECTED: 10/04/19 94 (M D Y; 23–28)

CWM Chemical Services, Inc.

FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087	U		<	50.0
Q	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				93.9
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (7)   TRANS CODE: A (8)

REPORT DUE DATE: 01/15/95 (36 M D Y 41)

FEDERAL ID NUMBER: ILD000672121

SITE INVENTORY NUMBER: 0316000058 (9–18)
MONITOR POINT NUMBER (see Instructions): G26S (G126S) (19–22)

REGION: N   CO.: Cook
DATE COLLECTED: 10/03/94 (23 M D Y 28)

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY
LAB ___ (29)
DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X): X (64)
TIME COLLECTED (24 Hr. Clock): 14:30 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions): ___ (69)

MONITOR POINT SAMPLED BY (see Instructions): F (60)   OTHER (SPECIFY) ___

SAMPLE FIELD FILTERED — INORGANICS (X): X (61)   ORGANICS (X): ___ (62)

SAMPLE APPEARANCE (63): STRONG ODOR, GREY TAN, VERY CLOUDY (102)

COLLECTOR COMMENTS (103): STICK-UP = 1.61 FEET (142)

LAB COMMENTS (160): ___ (199)

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				60.6
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.24
Q	DEPTH TO WATER (ft below LS)	72019				8.88
	BTM OF WELL ELEV (ft ref MSL)	72020				576.20
	DEPTH TO WATER FR MEA PT (ft)	72109				10.49
Q	TOTAL WELL DEPTH (ft below LS)	72008				15.92
						.

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 6 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ___

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		9.34
Q	pH - Field	00400		2		9.32
Q	pH - Field	00400		3		9.31
Q	pH - Field	00400		4		9.28
Q	SPEC COND - Field (umhos)	00094		1		4350.
Q	SPEC COND - Field (umhos)	00094		2		4290.
Q	SPEC COND - Field (umhos)	00094		3		4290.
Q	SPEC COND - Field (umhos)	00094		4		4310.
Q	Fluoride (Diss) mg/L					0.82
	Aluminum (Total) ug/L					2190.
Q	Aluminum (Dissolved) ug/L		U		<	540.
Q	Sodium (Total) mg/L					837.
Q	Sodium (Dissolved) mg/L					910.
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

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EPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER: G 2 6 S (19–22)

CO.: COOK   DATE COLLECTED: 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620 (30–34)	(35)	(36)	(37)	(38–47)
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				1130.
Q	IRON (TOTAL) ug/L	01045				4830.
Q	IRON (DISS) ug/L	01046	U		<	100.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, ...tember 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with facility sampling and analysis plan.

*Only Keypunch with Data in Columns 35 to Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook   DATE COLLECTED 10/03/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	98.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	20.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				93.0
Q	ARSENIC (DISS.)	01000				50.0
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030				6.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 6 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.
FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
A	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 6 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.
FACILITY NAME LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520				.
Q	CHROMIUM (TOTAL)	01034				55.7
Q	CHROMIUM (DISS.)	01030	U		<	50.0
A	CHRYSENE	34320				.
A	COBALT (TOTAL)	01037				.
A	COBALT (DISS.)	01035				.
Q	COPPER (TOTAL)	01042	U		<	25.0
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				.
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730				.
A	4,4-DDD	39310				.
A	4,4,-DDE	39320				.
A	4,4,-DDT	39300				.
A	DIALLATE	73540				.
A	DIBENZ (a,h) ANTHRACENE	34556				.
A	DIBENZOFURAN	81302				.
A	DIBROMOCHLOROMETHANE	32105				.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				.
A	1,2-DIBROMOETHANE	77651				.
A	Di-n-BUTYL PHTHALATE	39110				.
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				.
A	p-DICHLOROBENZENE.	34571				.
A	3,3-DICHLOROBENZIDINE	34631				.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				.
A	1,2-DICHLOROETHANE	34531				.
Q	1,1-DICHLOROETHYLENE	34501	U		<	6.
A	TRANS-1,2-DICHLOROETHYLENE	34546				.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				.
A	Cis-1,3-DICHLOROPROPENE	34704				.
A	trans-1,3-DICHLOROPROPENE	34699				.
A	DIELDRIN	39380				.
A	DIETHYL PHTHALATE	34336				.
A	PHOSPHOROTHIOIC ACID	73553				.
A	DIMETHOATE	46314				.
A	p(DIMETHYLAMINO) AZOBENZENE	73558				.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				.
A	3,3-DIMETHYLBENZIDINE	73560				.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				.
A	m-DINITROBENZENE	45622				.
A	4,6-DINITRO-O-CRESOL	34657				.
A	2,4-DINITROPHENOL	34616				.
	2,4-DINITROTOLUENE	34611				.
	2,6-DINITROTOLUENE	34626				.
A	DINOSEB	38779				.
A	DI-N-OCTYL PHTHALATE	34596				.

ll analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, eptember 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with he facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.   LAB ___ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582	U		<	68.
A	DIPHENYLAMINE	77579				
A	DISULFOTON	81888				
A	ENDOSULFAN I	34361				
A	ENDOSULFAN II	34356				
A	ENDOSULFAN SULFATE	34351				
A	ENDRIN	39390				
A	ENDRIN ALDEHYDE	34366				
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				
A	ETHYL METHANESULFONATE	73571				
A	FAMPHUR	38462				
A	FLUORANTHENE	34376				
A	FLUORENE	34381				
A	HEPTHACHLOR	39410				
A	HEPTACHLOR EPOXIDE	39420				
A	HEXACHLOROBENZENE	39700				
A	HEXACHLOROBUTADIENE	39702				
A	HEXACHLOROCYCLOPENTADIENE	34386				
A	HEXACHLOROETHANE	34396				
A	HEXACHLOROPHENE	73575				
A	HEXACHLOROPROPENE	73576				
A	2-HEXANONE	77103				
A	INDENO (1,2,3-cd)PYRENE	34403				
A	ISOBUTYL-ALCOHOL	77033				
	ISODRIN	39430				
A	ISOPHORONE	34408				
A	ISOSAFROLE	73582				

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:PA/DLPC

CHEMICAL ANALYSIS FORM

...ORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

...TE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

...). Cook

LAB ____ (29)

CWM Chemical Services, Inc.
FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				10.0
Q	LEAD (DISS.)	01049	U		<	5.0
Q	MERCURY (TOTAL)	71900	U		<	0.20
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOYCHLOR	39480				
	METHYL BROMIDE	34413				
--	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423	U		<	6.
Q	METHYL ETHYL KETONE	81595	U		<	50.
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133	U		<	16.
Q	NAPHTHALENE	34696				16.
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
Q	NICKEL (TOTAL)	01067				51.0
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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ORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 6 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730				14.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 6 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	20.
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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EPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28) M D Y

O. Cook

LAB 2 (29)

CWM Chemical Services, Inc.

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				1330.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 6 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087	U		<	50.0
Q	VANADIUM (DISS.)	01085	U		<	60.0
	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				68.3
Q	ZINC (DISS.)	01090	U		<	80.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L | P | C | S | M | 0 | 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE: 01/15/95 (36 M D Y 41)

FEDERAL ID NUMBER: ILD000672121

SITE INVENTORY NUMBER: 0316000058 (9–18)
MONITOR POINT NUMBER (see Instructions): G07S (G307S) (19–22)

REGION: N CO.: Cook
DATE COLLECTED: 10/03/94 (23 M D Y 25)

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY
LAB ____ (29)
DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X): X (64)
TIME COLLECTED (24 Hr. Clock): 09:45 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions): ____ (69)

MONITOR POINT SAMPLED BY (see Instructions): F (60) OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X): X (61) ORGANICS (X): ____ (62)

SAMPLE APPEARANCE (63): SLIGHT ODOR, TAN, MODERATE TURBIDITY (102)

COLLECTOR COMMENTS (103): STICK-UP=2.17 FEET (142)

LAB COMMENTS (160): ____ (199)

RECORD CODE: L | P | C | S | M | 0 | 2 (1–7) TRANS CODE: A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				59.0
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.13
Q	DEPTH TO WATER (ft below LS)	72019				4.80
A	BTM OF WELL ELEV (ft ref MSL)	72020				575.19
	DEPTH TO WATER FR MEA PT (ft)	72109				6.97
Q	TOTAL WELL DEPTH (ft below LS)	72008				13.34
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 0 7 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		7.68
Q	pH - Field	00400		2		7.72
Q	pH - Field	00400		3		7.75
Q	pH - Field	00400		4		7.79
Q	SPEC COND - Field (umhos)	00094		1		2310.
Q	SPEC COND - Field (umhos)	00094		2		2310.
Q	SPEC COND - Field (umhos)	00094		3		2330.
Q	SPEC COND - Field (umhos)	00094		4		2320.
Q	Fluoride (Diss) mg/L					0.54
Q	Aluminum (Total) ug/L					1580.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					185.
Q	Sodium (Dissolved) mg/L					198.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
						.
						.
						.
						.
						.
						.

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*Only Keypunch with Data in Column 35 or Columns 38-47

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LPC 160 1/90 (CONT)

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CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 0 7 S

CO. COOK DATE COLLECTED 10/03/94

CWM Chemical Services, Inc.

FACILITY NAME LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				194.
Q	IRON (TOTAL) ug/L	01045				6050.
Q	IRON (DISS) ug/L	01046				812.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, November 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with facility sampling and analysis plan.

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RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 0 7 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX					
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
A	ACRYLONITRILE	34215				
	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002	U		<	10.0
Q	ARSENIC (DISS.)	01000	U		<	10.0
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012 (30–34)	(35)	(36)	(37)	. (38–47)
A	BERYLLIUM (DISS.)	01010				.
A	ALPHA - BHC	39337				.
A	BETA - BHC	39338				.
A	DELTA - BHC	46323				.
A	LINDANE	39782				.
A	BIS (2-Chloroethoxy) METHANE	34278				.
A	BIS (2-Chloroethyl) ETHER	34273				.
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				.
	BIS (2-Ethylhexyl) PHTHALATE	39100				.
A	BROMODICHLOROMETHANE	32101				.
A	BROMOFORM	32104				.
A	4-BROMOPHENYL PHENYL ETHER	34636				.
A	BUTYL BENZYL PHTHALATE	34292				.
Q	CADMIUM (TOTAL)	01027	U	<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				.
A	CARBON TETRACHLORIDE	32102				.
A	CHLORDANE	39350				.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				.
A	p-CHLORO-M-CRESOL	34452				.
A	CHLOROETHANE	34311				.
A	CHLOROFORM	32106				.
	2-CHLORONAPHTHALENE	34581				.
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				.

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CHEMICAL ANALYSIS FORM

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TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28, M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				26.5
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
Q	COPPER (TOTAL)	01042	U		<	25.0
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				
A	p-DICHLOROBENZENE.	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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'D CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 0 7 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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EPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook

DATE COLLECTED 10/03/94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	1,4-DIOXANE	81582				220.
A	DIPHENYLAMINE	77579				.
A	DISULFOTON	81888				.
A	ENDOSULFAN I	34361				.
A	ENDOSULFAN II	34356				.
A	ENDOSULFAN SULFATE	34351				.
A	ENDRIN	39390				.
A	ENDRIN ALDEHYDE	34366				.
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				.
A	ETHYL METHANESULFONATE	73571				.
A	FAMPHUR	38462				.
A	FLUORANTHENE	34376				.
A	FLUORENE	34381				.
A	HEPTHACHLOR	39410				.
A	HEPTACHLOR EPOXIDE	39420				.
A	HEXACHLOROBENZENE	39700				.
A	HEXACHLOROBUTADIENE	39702				.
A	HEXACHLOROCYCLOPENTADIENE	34386				.
A	HEXACHLOROETHANE	34396				.
A	HEXACHLOROPHENE	73575				.
A	HEXACHLOROPROPENE	73576				.
A	2-HEXANONE	77103				.
A	INDENO (1,2,3-cd)PYRENE	34403				.
	ISOBUTYL-ALCOHOL	77033				.
	ISODRIN	39430				.
A	ISOPHORONE	34408				.
A	ISOSAFROLE	73582				.

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CHEMICAL ANALYSIS FORM

ID CODE | L | P | C | S | M | 0 | 2 | (1–7)

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SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				.
Q	LEAD (TOTAL)	01051	U	<		5.00
Q	LEAD (DISS.)	01049	U	<		5.0
Q	MERCURY (TOTAL)	71900	U	<		0.20
Q	MERCURY (DISS.)	71890	U	<		0.20
A	METHACRYLONITRILE	81593				.
A	METHAPYRILENE	73589				.
A	METHOXYCHLOR	39480				.
	METHYL BROMIDE	34413				.
A	METHYL CHLORIDE	34418				.
A	3-METHYLCHOLANTHRENE	73591				.
A	METHYLENE BROMIDE	77596				.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424				.
A	METHYL METHACRYLATE	81597				.
A	METHYL METHANESULFONATE	73595				.
A	2-METHYLNAPHTHALENE	77416				.
A	METHYL PARATHION	39600				.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599				.
A	1,NAPHTHYLAMINE	73600				.
A	2,NAPHTHYLAMINE	73601				.
	NICKEL (TOTAL)	01067	U		<	40.0
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				.
A	m-NITROANILINE	78300				.

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*Only Kepone [illegible] 35 to Columns 38-47

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CHEMICAL ANALYSIS FORM

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CO. Cook

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CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605				.
A	NITROBENZENE	34447				.
A	o-NITROPHENOL	34591				.
A	p-NITROPHENOL	34646				.
A	4-NITROQUINOLENE 1-OXIDE	73608				.
A	N-NITROSODI-n-BUTYLAMINE	78207				.
A	N-NITROSODIETHYLAMINE	78200				.
A	N-NITROSODIMETHYLAMINE	34438				.
	N-NITROSODIPHENYLAMINE	34433				.
A	N-NITROSODIPROPYLAMINE	34428				.
A	N-NITROSOMETHYLETHYLAMINE	73613				.
A	N-NITROSOMORPHOLINE	73617				.
A	N NITROSOPIPERIDINE	73619				.
A	N-NITROSOPYRROLIDINE	73620				.
A	5-NITRO-O-TOLUIDINE	73622				.
A	PARATHION	39540				.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793				.
A	PENTACHLOROETHANE	81501				.
A	PENTACHLORONITROBENZENE	81316				.
A	PENTACHLOROPHENOL	39032				.
A	PHENACETIN	73626				.
A	PHENENTHRENE	34461				.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628				.
	PHORATE	46313				.
A	2-PICOLINE	77088				.
A	PRONAMIDE	73635				.

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CHEMICAL ANALYSIS FORM

ID CODE L P C S M 0 2

TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 0 7 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469				.
A	PYRIDINE	77045				.
A	SAFROLE	77545				.
A	SELENIUM (TOTAL)	01147				.
A	SELENIUM (DISS.)	01145				.
A	SILVER (TOTAL)	01077				.
A	SILVER (DISS.)	01075				.
	SILVEX	39760				.
A	STYRENE	77128				.
Q	SULFIDE (TOTAL)	00745				.
A	2,4,5-T	39740				.
A	1,2,4,5 TETRACHLOROBENZENE	77734				.
A	1,1,1,2-TETRACHLOROETHANE	77562				.
A	1,1,2,2-TETRACHLOROETHANE	34516				.
A	TETRACHLOROETHYLENE	34475				.
A	2,3,4,6-TETRACHLOROPHENOL	77770				.
A	SULFOTEPP	82201				.
A	THALLIUM (TOTAL)	01059				.
A	THALLIUM (DISS.)	01057				.
A	TIN (TOTAL)	01102				.
A	TIN (DISS.)	01100				.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				.
	TOXAPHENE	39400				.
	1,2,4-TRICHLOROBENZENE	34551				.
A	1,1,1-TRICHLOROETHANE	34506				.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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EPA/DLPC CHEMICAL ANALYSIS FORM

?D CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8   MONITOR POINT NUMBER G 0 7 S

CO. Cook   DATE COLLECTED 10/03/94 (M D Y)

CWM Chemical Services, Inc.   LAB 2

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
A	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

??D CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 0 7 S

CO. Cook

DATE COLLECTED 10/03/1994

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087	U		<	50.0
	VANADIUM (DISS.)	01085	U		<	50.0
A	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				37.1
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: P C S M 0 1 (7) TRANS CODE: A (8)

REPORT DUE DATE 01/15/95

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058 (9–18)

MONITOR POINT NUMBER (see Instructions) G34S (G334S) (19–22)

REGION N CO. Cook

DATE COLLECTED 10/03/94 (23–28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED __/__/__ (42–47)

BACKGROUND SAMPLE (X) X (64)

TIME COLLECTED (24 Hr. Clock) 11:15 (55–58)

UNABLE TO COLLECT SAMPLE (see Instructions) ____ (69)

MONITOR POINT SAMPLED BY (see Instructions) F (60) ____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X) X (61) ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, DARK GRE Y, VERY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP=2.09 FEET (142)

LAB COMMENTS (160) (199)

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	TEMP OF WATER (unfiltered °F)	00011				64.4
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				586.51
Q	DEPTH TO WATER (ft below LS)	72019				4.26
	BTM OF WELL ELEV (ft ref MSL)	72020				577.98
Q	DEPTH TO WATER FR MEA PT (ft)	72109				6.35
Q	TOTAL WELL DEPTH (ft below LS)	72008				12.79
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400 (30–34)	(35)	1 (36)	(37)	9.12 (38–47)
Q	pH - Field	00400		2		9.12
Q	pH - Field	00400		3		9.12
Q	pH - Field	00400		4		9.06
Q	SPEC COND - Field (umhos)	00094		1		4450.
Q	SPEC COND - Field (umhos)	00094		2		4500.
Q	SPEC COND - Field (umhos)	00094		3		4520.
Q	SPEC COND - Field (umhos)	00094		4		4470.
Q	Fluoride (Diss) mg/L					0.50
	Aluminum (Total) ug/L					69400.
Q	Aluminum (Dissolved) ug/L		U		<	540.
Q	Sodium (Total) mg/L					459.
Q	Sodium (Dissolved) mg/L					512.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
						.
						.
						.
						.
						.
						.

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EPA/DLPC

CHEMICAL ANALYSIS FORM

ID CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 3 4 S (19–22)

CO. COOK

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				975.
Q	IRON (TOTAL) mg/L	01045				178.
Q	IRON (DISS) ug/L	01046	U		<	100.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				111.
Q	ARSENIC (DISS.)	01000	U		<	10.0
Q	BARIUM (TOTAL)	01007				820.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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EPA/DLPC CHEMICAL ANALYSIS FORM

D CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	25.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28, M D Y)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				229.
Q	CHROMIUM (DISS.)	01030	U		<	50.0
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
Q.	COPPER (TOTAL)	01042				312.
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				
A	p-DICHLOROBENZENE.	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 3 4 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582				160.
A	DIPHENYLAMINE	77579				.
A	DISULFOTON	81888				.
A	ENDOSULFAN I	34361				.
A	ENDOSULFAN II	34356				.
A	ENDOSULFAN SULFATE	34351				.
A	ENDRIN	39390				.
A	ENDRIN ALDEHYDE	34366				.
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				.
A	ETHYL METHANESULFONATE	73571				.
A	FAMPHUR	38462				.
A	FLUORANTHENE	34376				.
A	FLUORENE	34381				.
A	HEPTHACHLOR	39410				.
A	HEPTACHLOR EPOXIDE	39420				.
A	HEXACHLOROBENZENE	39700				.
A	HEXACHLOROBUTADIENE	39702				.
A	HEXACHLOROCYCLOPENTADIENE	34386				.
A	HEXACHLOROETHANE	34396				.
A	HEXACHLOROPHENE	73575				.
A	HEXACHLOROPROPENE	73576				.
A	2-HEXANONE	77103				.
A	INDENO (1,2,3-cd)PYRENE	34403				.
A	ISOBUTYL-ALCOHOL	77033				.
	ISODRIN	39430				.
A	ISOPHORONE	34408				.
A	ISOSAFROLE	73582				.

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CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook   DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				1240.
Q	LEAD (DISS.)	01049	U		<	5.0
Q	MERCURY (TOTAL)	71900				0.51
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOXCHLOR	39480				
	METHYL BROMIDE	34413				
A	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
Q	NICKEL (TOTAL)	01067				274.
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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RD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 3 4 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28, M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
A	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB 2 (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				1130.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
A	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, November 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (6)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 19 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180 (30–34)	(35)	(36)	(37)	(38–47)
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087				310.
Q	VANADIUM (DISS.)	01085	U		<	60.0
	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				1240.
Q	ZINC (DISS.)	01090	U		<	80.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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**Only Keypunch with Data in Column 35 or Columns 38-47*

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 1 (7)   TRANS CODE A (8)

REPORT DUE DATE 01/15/95 (36 M D Y 41)

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058 (9–18)

MONITOR POINT NUMBER G435 (G343S) (see instructions) (19–22)

REGION N   CO. Cook

DATE COLLECTED 10/03/94 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)

TIME COLLECTED 10:35 (24 Hr. Clock) (55 H M 58)

UNABLE TO COLLECT SAMPLE ____ (see Instructions) (69)

MONITOR POINT SAMPLED BY F (see Instructions) (60)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61)   ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) MODERATE ODOR, BROWN, VERY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP=2.07 FEET (142)

LAB COMMENTS (160) ____ (199)

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				64.4
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				581.34
Q	DEPTH TO WATER (ft below LS)	72019				3.19
Q	BTM OF WELL ELEV (ft ref MSL)	72020				571.62
Q	DEPTH TO WATER FR MEA PT (ft)	72109				5.26
Q	TOTAL WELL DEPTH (ft below LS)	72008				12.91
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 4 3 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field		00400		1		7.86
Q	pH - Field		00400		2		7.81
Q	pH - Field		00400		3		7.92
Q	pH - Field		00400		4		7.99
Q	SPEC COND - Field (umhos)		00094		1		2080.
Q	SPEC COND - Field (umhos)		00094		2		2080.
Q	SPEC COND - Field (umhos)		00094		3		2110.
Q	SPEC COND - Field (umhos)		00094		4		2090.
Q	Fluoride (Diss)	mg/L					0.84
	Aluminum (Total)	ug/L					14600.
Q	Aluminum (Dissolved)	ug/L		U		<	200.
Q	Sodium (Total)	mg/L					188.
Q	Sodium (Dissolved)	mg/L					190.
A	2,3,7,8-TCDD	ng/L					.
A	2,3,7,8-TCDF	ng/L					.
A	PCB Aroclor 1016	ug/L					.
A	PCB Aroclor 1221	ug/L					.
A	PCB Aroclor 1232	ug/l					.
A	PCB Aroclor 1242	ug/L					.
A	PCB Aroclor 1248	ug/L					.
A	PCB Aroclor 1254	ug/L					.
A	PCB Aroclor 1260	ug/L					.
							.
							.
							.
							.
							.
							.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

Printed on Recycled Paper

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 4 3 S

CO. COOK

DATE COLLECTED 1 0 / 0 3 / 9 4

CWM Chemical Services, Inc.
FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				222.
Q	IRON (TOTAL) ug/L	01045				39900.
Q	IRON (DISS) ug/L	01046				390.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

l analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, ptember 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with c facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 ... Column 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

D CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 4 3 S

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ___

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
	ACRYLONITRILE	34215				
A	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				28.8
Q	ARSENIC (DISS.)	01000				14.0
Q	BARIUM (TOTAL)	01007				292.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
	BENZO (k) FLUORANTHENE	34242				
	BENZO (ghi) PERYLENE	34521				
A	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

ORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 4 3 S

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027	U		<	25.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
	CHLOROFORM	32106				
	2-CHLORONAPHTHALENE	34581				
Q	2-CHLOROPHENOL	34586	U		<	5.
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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EPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28) M D Y

CWM Chemical Services, Inc. LAB ____ (29)
FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				10.0
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
Q	COPPER (TOTAL)	01042				56.5
Q	COPPER (DISS.)	01040	U		<	25.0
	m-CRESOL	77151	U		<	10.
A	o-CRESOL	77152				
Q	p-CRESOL	77146	U		<	10.
Q	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566				
A	p-DICHLOROBENZENE	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ___ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547				
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496				
A	1,2-DICHLOROETHANE	34531				
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546				
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541				
A	Cis-1,3-DICHLOROPROPENE	34704				
A	trans-1,3-DICHLOROPROPENE	34699				
A	DIELDRIN	39380				
A	DIETHYL PHTHALATE	34336				
A	PHOSPHOROTHIOIC ACID	73553				
A	DIMETHOATE	46314				
A	p(DIMETHYLAMINO) AZOBENZENE	73558				
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559				
A	3,3-DIMETHYLBENZIDINE	73560				
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564				
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341				
A	m-DINITROBENZENE	45622				
A	4,6-DINITRO-O-CRESOL	34657				
A	2,4-DINITROPHENOL	34616				
A	2,4-DINITROTOLUENE	34611				
	2,6-DINITROTOLUENE	34626				
A	DINOSEB	38779				
A	DI-N-OCTYL PHTHALATE	34596				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	1,4-DIOXANE	81582	U		<	50.
A	DIPHENYLAMINE	77579				.
A	DISULFOTON	81888				.
A	ENDOSULFAN I	34361				.
A	ENDOSULFAN II	34356				.
A	ENDOSULFAN SULFATE	34351				.
A	ENDRIN	39390				.
A	ENDRIN ALDEHYDE	34366				.
	ETHYLBENZENE	78113	U		<	5.
A	ETHYL METHACRYLATE	73570				.
A	ETHYL METHANESULFONATE	73571				.
A	FAMPHUR	38462				.
A	FLUORANTHENE	34376				.
A	FLUORENE	34381				.
A	HEPTHACHLOR	39410				.
A	HEPTACHLOR EPOXIDE	39420				.
A	HEXACHLOROBENZENE	39700				.
A	HEXACHLOROBUTADIENE	39702				.
A	HEXACHLOROCYCLOPENTADIENE	34386				.
A	HEXACHLOROETHANE	34396				.
A	HEXACHLOROPHENE	73575				.
A	HEXACHLOROPROPENE	73576				.
A	2-HEXANONE	77103				.
A	INDENO (1,2,3-cd)PYRENE	34403				.
A	ISOBUTYL-ALCOHOL	77033				.
	ISODRIN	39430				.
A	ISOPHORONE	34408				.
A	ISOSAFROLE	73582				.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

EPA/DLPC CHEMICAL ANALYSIS FORM

RD CODE L | P | C | S | M | 0 | 2 (1–7) TRANS CODE A (8)

ITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

O. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				.
Q	LEAD (TOTAL)	01051				175.
Q	LEAD (DISS.)	01049	U		<	5.0
Q	MERCURY (TOTAL)	71900	U		<	0.20
Q	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593				.
A	METHAPYRILENE	73589				.
A	METHOYCHLOR	39480				.
	METHYL BROMIDE	34413				.
A	METHYL CHLORIDE	34418				.
A	3-METHYLCHOLANTHRENE	73591				.
A	METHYLENE BROMIDE	77596				.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424				.
A	METHYL METHACRYLATE	81597				.
A	METHYL METHANESULFONATE	73595				.
A	2-METHYLNAPHTHALENE	77416				.
A	METHYL PARATHION	39600				.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599				.
A	1,NAPHTHYLAMINE	73600				.
A	2,NAPHTHYLAMINE	73601				.
	NICKEL (TOTAL)	01067	U		<	180.
	NICKEL (DISS.)	01065	U		<	40.0
A	o-NITROANILINE	78142				.
A	m-NITROANILINE	78300				.

ll analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with he facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G43S

CO. Cook

DATE COLLECTED 10/03/94

CWM Chemical Services, Inc.

FACILITY NAME

LAB ___

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605				
A	NITROBENZENE	34447				
A	o-NITROPHENOL	34591				
A	p-NITROPHENOL	34646				
A	4-NITROQUINOLENE 1-OXIDE	73608				
A	N-NITROSODI-n-BUTYLAMINE	78207				
A	N-NITROSODIETHYLAMINE	78200				
A	N-NITROSODIMETHYLAMINE	34438				
	N-NITROSODIPHENYLAMINE	34433				
A	N-NITROSODIPROPYLAMINE	34428				
A	N-NITROSOMETHYLETHYLAMINE	73613				
A	N-NITROSOMORPHOLINE	73617				
A	N NITROSOPIPERIDINE	73619				
A	N-NITROSOPYRROLIDINE	73620				
A	5-NITRO-O-TOLUIDINE	73622				
A	PARATHION	39540				
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793				
A	PENTACHLOROETHANE	81501				
A	PENTACHLORONITROBENZENE	81316				
A	PENTACHLOROPHENOL	39032				
A	PHENACETIN	73626				
A	PHENENTHRENE	34461				
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628				
	PHORATE	46313				
A	2-PICOLINE	77088				
A	PRONAMIDE	73635				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 1 0 / 0 3 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745				
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

EPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB 2 (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007				
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
Q	SULFIDE (TOTAL)	00745	U		<	500.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

Analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, November 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (6)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 4 3 S (22)

CO. Cook

DATE COLLECTED 1 0 / 0 3 / 19 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
Q	VANADIUM (TOTAL)	01087				52.1
Q	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				182.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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CWM Chemical Services, Inc.

Chicago Incinerator
11700 S. Stony Island Ave
Chicago IL 60617
312 646-5700

September 20, 1994

Mr. Ken Liss
Illinois Environmental Protection Agency
1340 North 9th Street
Springfield, IL 62702

RE: CWM Chemical Services, Inc.
Post-Closure Groundwater Monitoring
Third Quarter 1994 State Forms

Dear Mr. Liss:

Please find attached, the third quarter, 1994 State Forms for the post-closure groundwater monitoring program at the CWM Chemical Services, Inc. Chicago Incinerator facility. The data provided includes the annual Appendix I analytical results as well as the verification sample results.

As required by our approved post-closure groundwater monitoring plan, the water elevation for Lake Calumet for the dates on which groundwater samples were obtained, are as follows:

July 6, 1994	580.14 feet mean sea level
July 7, 1994	580.18 feet mean sea level
August 22, 1994	580.11 feet mean sea level

If there are any questions on this data, please contact me at (312) 646-5700.

Sincerely,

Lisa Grassl

Lisa Grassl
Environmental Engineer
CWM Chemical Services, Inc.

cc: Bob LaBoube
Brian Clarke
Gino Bruni - IEPA Maywood
Richard Carlson - Carlson Environmental
Frank Kudrna - Kudrna & Associates

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 1 | TRANS CODE | A |

REPORT DUE DATE 1 0 / 1 5 / 9 4

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 0 S (G120S)
(see Instructions)

REGION N   CO. Cook

DATE COLLECTED 0 7 / 0 7 / 9 4

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 1 0 : 3 5
(24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____
(see Instructions)

MONITOR POINT SAMPLED BY F   OTHER (SPECIFY) ____
(see Instructions)

SAMPLE FIELD FILTERED — INORGANICS (X) X   ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR, YELLOW G
REY, VERY CLOUDY, FOAM

COLLECTOR COMMENTS STICK-UP=0.85 FEET

LAB COMMENTS

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A | (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				60.98
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.39
Q	DEPTH TO WATER (ft below LS)	72019				10.60
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.08
	DEPTH TO WATER FR MEA PT (ft)	72109				11.45
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.91
						.

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (22)

CO. Cook

DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400 (30–34)	(35)	1 (36)	(37)	7.05 (38–47)
Q	pH - Field	00400		2		7.03
Q	pH - Field	00400		3		7.03
Q	pH - Field	00400		4		7.03
Q	SPEC COND - Field (umhos)	00094		1		2930.
Q	SPEC COND - Field (umhos)	00094		2		2920.
Q	SPEC COND - Field (umhos)	00094		3		2930.
Q	SPEC COND - Field (umhos)	00094		4		2930.
Q	Fluoride (Diss) mg/L					0.37
Q	Aluminum (Total) ug/L					3250.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					143.
Q	Sodium (Dissolved) mg/L					120.
A	2,3,7,8-TCDD ng/L		U		<	0.180
A	2,3,7,8-TCDF ng/L		U		<	0.600
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
						.
						.
						.
						.
						.
						.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

Printed on Recycled Paper

RECORD CODE: L P C S M 0 2 TRANS CODE: A

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER: G 2 0 S

CO. COOK

DATE COLLECTED: 07/07/94

CWM Chemical Services, Inc.
FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				321.
Q	IRON (TOTAL) ug/L	01045				27300.
Q	IRON (DISS) ug/L	01046				17900.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 07 07 94 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	APPENDIX IX					
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	200.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	50.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	42.
A	ACRYLONITRILE	34215	U		<	50.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	20.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002				48.4
Q	ARSENIC (DISS.)	01000				39.5
Q	BARIUM (TOTAL)	01007				1150.
Q	BARIUM (DISS.)	01005				1020.
Q	BENZENE	34030	U		<	8.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
--	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	8.
A	BROMOFORM	32104	U		<	8.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	8.
A	CARBON TETRACHLORIDE	32102	U		<	12.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529				53.
Q	CHLOROBENZENE	34301	U		<	8.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	24.
A	CHLOROFORM	32106	U		<	8.
	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 0 S

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4

CWM Chemical Services, Inc.
FACILITY NAME LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520	U		<	12.
Q	CHROMIUM (TOTAL)	01034				33.2
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
^	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720				20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730	U		<	2.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	28.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

?ORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 0 S

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	20.
Q	DICHLORODIFLUOROMETHANE	34668				25.
A	1,1-DICHLOROETHANE	34496	U		<	8.
A	1,2-DICHLOROETHANE	34531	U		<	8.
Q	1,1-DICHLOROETHYLENE	34501	U		<	12.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	12.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	8.
..	Cis-1,3-DICHLOROPROPENE	34704	U		<	8.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	8.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
?	DINOSEB	38779	U		<	50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L | P | C | S | M | 0 | 2 (1–7)

TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582 (30–34)	U (35)	(36)	< (37)	220. (38–47)
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
	ETHYLBENZENE	78113	U		<	6.
	ETHYL METHACRYLATE	73570	U		<	44.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	36.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	50.
	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 |

TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 0 S

CO. Cook

DATE COLLECTED 0 7 / 0 7 / 9 4

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				17.0
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	50.
A	METHAPYRILENE	73589	U		<	10.
A	METHOXYCHLOR	39480	U		<	0.5
	METHYL BROMIDE	34413	U		<	16.
	METHYL CHLORIDE	34418	U		<	16.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	12.
Q	METHYL ETHYL KETONE	81595	U		<	100.
A	METHYL IODIDE	77424	U		<	12.
A	METHYL METHACRYLATE	81597	U		<	50.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	32.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067	U		<	40.0
	NICKEL (DISS.)	01065	U		<	40.0
	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook   DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME   LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
A	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	16.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
A	2-PICOLINE	77088	U		<	10.
A	PRONAMIDE	73635	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 07/07/94 (23–28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	50.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	220.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	16.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	2.
	STYRENE	77128	U		<	8.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	2.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	8.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	12.
A	TETRACHLOROETHYLENE	34475	U		<	12.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	8.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	8.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	8.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook

DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180	U		<	8.
A	TRICHLOROFLUOROMETHANE	34488	U		<	12.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	36.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057	U		<	28.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	24.
Q	ZINC (TOTAL)	01092				89.5
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.180
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.910
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.910
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.600
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.640
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.330

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7) TRANS CODE: A (8)

REPORT DUE DATE 1 0 / 1 5 / 9 4 (36 M D Y 41)

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 1 S (G121S) (see Instructions) (19–22)

REGION N CO. Cook

DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ___ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)

TIME COLLECTED 0 8 : 2 5 (24 Hr. Clock) (55 H M 58)

UNABLE TO COLLECT SAMPLE ___ (see Instructions) (69)

MONITOR POINT SAMPLED BY F (see Instructions) (60) ___ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X) X (61) ORGANICS (X) ___ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, YELLOW TAN MODERATELY TURBID (102)

COLLECTOR COMMENTS (103) STICK-UP=0.78 FEET (142)

LAB COMMENTS (160) (199)

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011 (30–34)	(35)	(36)	(37)	63.14 (38–47)
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.40
Q	DEPTH TO WATER (ft below LS)	72019				10.71
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.26
	DEPTH TO WATER FR MEA PT (ft)	72109				11.49
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.25
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G21S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		8.02
Q	pH - Field	00400		2		8.02
Q	pH - Field	00400		3		8.02
Q	pH - Field	00400		4		8.02
Q	SPEC COND - Field (umhos)	00094		1		13000.
Q	SPEC COND - Field (umhos)	00094		2		13000.
Q	SPEC COND - Field (umhos)	00094		3		13000.
Q	SPEC COND - Field (umhos)	00094		4		13100.
Q	Fluoride (Diss) mg/L					1.92
Q	Aluminum (Total) ug/L					718.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					2320.
Q	Sodium (Dissolved) mg/L					3010.
A	2,3,7,8-TCDD ng/L		U		<	0.210
A	2,3,7,8-TCDF ng/L		U		<	0.480
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
						.
						.
						.
						.
						.
						.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 |　TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8　MONITOR POINT NUMBER G2 1 S

CO. COOK　DATE COLLECTED 0 7 / 0 7 / 9 4 (M D Y)

CWM Chemical Services, Inc.　LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				5050.
Q	IRON (TOTAL) ug/L	01045				6940.
Q	IRON (DISS) ug/L	01046				257.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook

DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	200.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	50.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	42.
A	ACRYLONITRILE	34215	U		<	50.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	20.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002	U		<	14.0
Q	ARSENIC (DISS.)	01000	U		<	14.0
Q	BARIUM (TOTAL)	01007				666.
Q	BARIUM (DISS.)	01005				499.
Q	BENZENE	34030				280.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook   DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	8.
A	BROMOFORM	32104	U		<	8.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	8.
A	CARBON TETRACHLORIDE	32102	U		<	12.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301				48.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	24.
A	CHLOROFORM	32106	U		<	8.
	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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**Only Keypunch with Data in Column 35 or Columns 38-47*

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520 (30–34)	U (35)	(36)	< (37)	12. (38–47)
Q	CHROMIUM (TOTAL)	01034				179.
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
Q	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730	U		<	2.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	28.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook

DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	20.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	12.
A	1,1-DICHLOROETHANE	34496	U		<	8.
A	1,2-DICHLOROETHANE	34531	U		<	8.
Q	1,1-DICHLOROETHYLENE	34501	U		<	12.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	12.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	8.
	Cis-1,3-DICHLOROPROPENE	34704	U		<	8.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	8.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
--	DINOSEB	38779	U		<	50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G21S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582	U		<	220.
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
A	ETHYLBENZENE	78113				10.
	ETHYL METHACRYLATE	73570	U		<	44.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	36.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	50.
	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 1 S

CO. Cook DATE COLLECTED 0 7/ 0 7/ 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				19.0
Q	LEAD (DISS.)	01049	U		<	18.0
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	50.
A	METHAPYRILENE	73589	U		<	10.
A	METHOY.CHLOR	39480	U		<	0.5
	METHYL BROMIDE	34413	U		<	16.
	METHYL CHLORIDE	34418	U		<	16.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	12.
Q	METHYL ETHYL KETONE	81595	U		<	100.
A	METHYL IODIDE	77424	U		<	12.
A	METHYL METHACRYLATE	81597	U		<	50.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	32.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				84.8
	NICKEL (DISS.)	01065				41.0
	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 19 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
	N-NITROSODIPHENYLAMINE	34433	U		<	10.
	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	16.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730				11.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
	PHORATE	46313	U		<	20.
	2-PICOLINE	77088	U		<	10.
A	PRONAMIDE	73635	U		<	10.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 1 S

CO. Cook

DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	50.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	220.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	16.0
A	SELENIUM (DISS.)	01145	U		<	16.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	2.
	STYRENE	77128	U		<	8.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	2.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	8.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	12.
A	TETRACHLOROETHYLENE	34475	U		<	12.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	26.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	8.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	8.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	8.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G21S

CO. Cook

DATE COLLECTED 07/07/94 (M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180	U		<	8.
A	TRICHLOROFLUOROMETHANE	34488	U		<	12.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	36.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057	U		<	28.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	24.
Q	ZINC (TOTAL)	01092				97.5
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.210
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.810
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.780
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.480
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.400
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.430

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1717

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE 10/15/94 (36 M D Y 41)

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058 (9–18)
MONITOR POINT NUMBER (see Instructions) G22S (G122S) (19–22)

REGION N CO. Cook
DATE COLLECTED 07/07/94 (23 M D Y 25)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY
LAB ____ (29)
DATE RECEIVED __/__/__ __ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)
TIME COLLECTED (24 Hr. Clock) 08:55 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions) ____ (59)

MONITOR POINT SAMPLED BY (see Instructions) F (60)
OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61) ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, YELLOW BROWN VERY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP=0.94 FEET (142)

LAB COMMENTS (160) (199)

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				61.34
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.50
Q	DEPTH TO WATER (ft below LS)	72019				10.79
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.52
	DEPTH TO WATER FR MEA PT (ft)	72109				11.73
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.77
						.

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook   DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		7.71
Q	pH - Field	00400		2		7.69
Q	pH - Field	00400		3		7.69
Q	pH - Field	00400		4		7.69
Q	SPEC COND - Field (umhos)	00094		1		9220.
Q	SPEC COND - Field (umhos)	00094		2		9200.
Q	SPEC COND - Field (umhos)	00094		3		9290.
Q	SPEC COND - Field (umhos)	00094		4		9280.
Q	Fluoride (Diss) mg/L					0.90
Q	Aluminum (Total) ug/L					13900.
J	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					1280.
Q	Sodium (Dissolved) mg/L					1490.
A	2,3,7,8-TCDD ng/L		U		<	0.140
A	2,3,7,8-TCDF ng/L		U		<	0.500
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
						.
						.
						.
						.
						.
						.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 2 S (19–22)

CO. COOK

DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620 (30–34)	(35)	(36)	(37)	(38–47)
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				3460.
Q	IRON (TOTAL) ug/L	01045				45300.
Q	IRON (DISS) ug/L	01046	U		<	100.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook   DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	20.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	17.
A	ACRYLONITRILE	34215	U		<	20.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002				37.9
Q	ARSENIC (DISS.)	01000	U		<	14.0
Q	BARIUM (TOTAL)	01007				1580.
Q	BARIUM (DISS.)	01005				1390.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G22S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.

FACILITY NAME LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	5.
A	BROMOFORM	32104	U		<	5.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027				6.2
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	5.
A	CARBON TETRACHLORIDE	32102	U		<	5.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	10.
A	CHLOROFORM	32106	U		<	5.
	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 1 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook   DATE COLLECTED 07/07/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520	U		<	5.
Q	CHROMIUM (TOTAL)	01034				355.
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042				10.6
A	COPPER (DISS.)	01040	U		<	10.
^	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730	U		<	1.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	10.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	10.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496	U		<	5.
A	1,2-DICHLOROETHANE	34531	U		<	5.
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	10.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	5.
	Cis-1,3-DICHLOROPROPENE	34704	U		<	5.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	5.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
	DINOSEB	38779	U		<	50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 2 S

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582	U		<	90.
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
A	ETHYLBENZENE	78113	U		<	5.
	ETHYL METHACRYLATE	73570	U		<	18.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	10.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	20.
	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2   TRANS CODE: A

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8   MONITOR POINT NUMBER: G 2 2 S

CO. Cook   DATE COLLECTED: 07 07 94 (M D Y)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				13.9
Q	LEAD (DISS.)	01049				167.
A	MERCURY (TOTAL)	71900				0.25
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	20.
A	METHAPYRILENE	73589	U		<	10.
A	METHOXYCHLOR	39480	U		<	0.5
	METHYL BROMIDE	34413	U		<	10.
	METHYL CHLORIDE	34418	U		<	10.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424	U		<	10.
A	METHYL METHACRYLATE	81597	U		<	20.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				139.
	NICKEL (DISS.)	01065	U		<	40.0
	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook   DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services. Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
A	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	10.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
A	2-PICOLINE	77088	U		<	10.
A	PRONAMIDE	73635	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER: G 2 2 S (19–22)

CO. Cook   DATE COLLECTED: 0 7 / 0 7 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.   LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	20.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	200.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	16.0
A	SELENIUM (DISS.)	01145	U		<	16.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	1.
	STYRENE	77128	U		<	5.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	1.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	5.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	12.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	5.
A	TETRACHLOROETHYLENE	34475	U		<	5.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	26.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	5.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRICHLOROETHYLENE	39180	U		<	5.
A	TRICHLOROFLUOROMETHANE	34488	U		<	10.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	10.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057	U		<	10.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				389.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/l	34675	U		<	0.140
A	PENTACHLORODIBENZO-p-DIOXINS ng/l	90000	U		<	0.570
A	HEXACHLORODIBENZO-p-DIOXINS ng/l	90001	U		<	0.500
A	TETRACHLORODIBENZOFURANS ng/l	90002	U		<	0.500
A	PENTACHLORODIBENZOFURANS ng/l	90003	U		<	0.290
A	HEXACHLORODIBENZOFURANS ng/l	90004	U		<	0.330
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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE 10/15/94 (56 M D Y 41)

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058 (9–18)
MONITOR POINT NUMBER G 2 3 S (G123S) (see Instructions) (19–22)

REGION N CO. Cook
DATE COLLECTED 07/07/94 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY
LAB ____ (29)
DATE RECEIVED __/__/__ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (54)
TIME COLLECTED 09:50 (24 Hr. Clock) (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions) ____ (59)

MONITOR POINT SAMPLED BY F (see Instructions) (60)
OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61) ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, YELLOW TAN, MODERATELY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP=2.37 FEET (142)

LAB COMMENTS (160) (199)

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				63.5
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				587.20
Q	DEPTH TO WATER (ft below LS)	72019				4.56
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.39
	DEPTH TO WATER FR MEA PT (ft)	72109				6.93
Q	TOTAL WELL DEPTH (ft below LS)	72008				18.37
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 1 (1–7)   TRANS CODE A (8)

REPORT DUE DATE 10/15/94 (36 M D Y 41)

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058 (9–18)   MONITOR POINT NUMBER G23S (G123S) (see Instructions) (19–22)

REGION N   CO. Cook   DATE COLLECTED 07/07/94 (23 M D Y 26)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED __/__/__ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)   TIME COLLECTED 09:50 (24 Hr. Clock) (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions) ____ (69)

MONITOR POINT SAMPLED BY (see Instructions) F (60)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61)   ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, YELLOW TAN, MODERATELY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP=2.37 FEET (142)

LAB COMMENTS (160) ____ (199)

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	TEMP OF WATER (unfiltered °F)	00011				63.5
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				587.20
Q	DEPTH TO WATER (ft below LS)	72019				4.56
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.39
	DEPTH TO WATER FR MEA PT (ft)	72109				6.93
Q	TOTAL WELL DEPTH (ft below LS)	72008				18.37
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment ...

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
Q	pH - Field	00400		1		8.33
Q	pH - Field	00400		2		8.32
Q	pH - Field	00400		3		8.32
Q	pH - Field	00400		4		8.32
Q	SPEC COND - Field (umhos)	00094		1		4580.
Q	SPEC COND - Field (umhos)	00094		2		4540.
Q	SPEC COND - Field (umhos)	00094		3		4620.
Q	SPEC COND - Field (umhos)	00094		4		4600.
Q	Fluoride (Diss) mg/L					0.29
Q	Aluminum (Total) ug/L					2560.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					389.
Q	Sodium (Dissolved) mg/L					449.
A	2,3,7,8-TCDD ng/L		U		<	0.190
A	2,3,7,8-TCDF ng/L		U		<	0.540
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

Printed on Recycled Paper

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0316000058 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. COOK DATE COLLECTED 07/07/94 (23–28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620 (30–34)	(35)	(36)	(37)	(38–47)
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				1540.
Q	IRON (TOTAL) ug/L	01045				8990.
Q	IRON (DISS) ug/L	01046				160.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook   DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	78.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	20.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	17.
A	ACRYLONITRILE	34215	U		<	20.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002	U		<	10.8
Q	ARSENIC (DISS.)	01000	U		<	10.0
Q	BARIUM (TOTAL)	01007				617.
Q	BARIUM (DISS.)	01005				543.
Q	BENZENE	34030				110.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 3 S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.

FACILITY NAME LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
A	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
A	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50
A	BROMODICHLOROMETHANE	32101	U		<	5.
A	BROMOFORM	32104	U		<	5.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309				9.
A	CARBON TETRACHLORIDE	32102	U		<	5.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	10.
A	CHLOROFORM	32106	U		<	5.
A	2-CHLORONAPHTHALENE	34581	U		<	10.
A	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0316000058 (9–18) MONITOR POINT NUMBER G23S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520 (30–34)	U (35)	(36)	< (37)	5. (38–47)
Q	CHROMIUM (TOTAL)	01034				180.
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
O	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730				4.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	11.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 0 7/0 7/9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	10.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496	U		<	5.
A	1,2-DICHLOROETHANE	34531	U		<	5.
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	10.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	5.
[illegible]	Cis-1,3-DICHLOROPROPENE	34704	U		<	5.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	5.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
A	DINOSEB	38779	U		<	50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 3 S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582				220.
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
A	ETHYLBENZENE	78113	U		<	5.
	ETHYL METHACRYLATE	73570	U		<	18.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	14.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033				220.
A	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				12.4
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	20.
A	METHAPYRILENE	73589	U		<	10.
A	METHOXCHLOR	39480	U		<	0.5
[illegible]	METHYL BROMIDE	34413	U		<	10.
[illegible]	METHYL CHLORIDE	34418	U		<	10.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595				71.
A	METHYL IODIDE	77424	U		<	10.
A	METHYL METHACRYLATE	81597	U		<	20.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	13.
Q	NAPHTHALENE	34696				10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				111.
A	NICKEL (DISS.)	01065	U		<	40.0
[illegible]	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook   DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605 (30–34)	U (35)	(36)	< (37)	50. (38–47)
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
	N-NITROSODIPHENYLAMINE	34433	U		<	10.
A	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	10.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730				11.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
A	2-PICOLINE	77088	U		<	10.
A	PRONAMIDE	73635	U		<	10.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	20.
		30 34	35	36	37	38 47
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	200.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	16.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	2.
	STYRENE	77128	U		<	5.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	2.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	5.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	5.
A	TETRACHLOROETHYLENE	34475	U		<	5.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	5.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23–28, M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180	U		<	5.
A	TRICHLOROFLUOROMETHANE	34488	U		<	10.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	14.
A	0,0,0-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057	U		<	11.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				140.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.190
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.790
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.810
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.540
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.380
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.420
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IL 532 1717

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1   TRANS CODE: A

REPORT DUE DATE: 10/15/94

FEDERAL ID NUMBER: ILD000672121

SITE INVENTORY NUMBER: 0316000058

MONITOR POINT NUMBER (see Instructions): G24S (G124S)

REGION: N   CO.: Cook

DATE COLLECTED: 07/07/94

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB: ____

DATE RECEIVED: __/__/__

BACKGROUND SAMPLE (X): X

TIME COLLECTED (24 Hr. Clock): 07:55

UNABLE TO COLLECT SAMPLE (see Instructions): ____

MONITOR POINT SAMPLED BY (see Instructions): F   OTHER (SPECIFY): ____

SAMPLE FIELD FILTERED — INORGANICS (X): X   ORGANICS (X): ____

SAMPLE APPEARANCE: SLIGHT ODOR, TAN, MODERATELY CLOUDY

COLLECTOR COMMENTS: STICK-UP=1.51 FEET

LAB COMMENTS:

RECORD CODE: L P C S M 0 2   TRANS CODE: A   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				63.5
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.64
Q	DEPTH TO WATER (ft below LS)	72019				8.13
A	BTM OF WELL ELEV (ft ref MSL)	72020				572.54
	DEPTH TO WATER FR MEA PT (ft)	72109				9.64
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.23
						.

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 4 S

CO. Cook DATE COLLECTED 0 7/0 7/9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		7.31
Q	pH - Field	00400		2		7.36
Q	pH - Field	00400		3		7.39
Q	pH - Field	00400		4		7.41
Q	SPEC COND - Field (umhos)	00094		1		4520.
Q	SPEC COND - Field (umhos)	00094		2		4530.
Q	SPEC COND - Field (umhos)	00094		3		4530.
Q	SPEC COND - Field (umhos)	00094		4		4530.
Q	Fluoride (Diss) mg/L					0.26
Q	Aluminum (Total) ug/L					4270.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					333.
Q	Sodium (Dissolved) mg/L					376.
A	2,3,7,8-TCDD ng/L		U		<	0.160
A	2,3,7,8-TCDF ng/L		U		<	0.500
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

Printed on Recycled Paper

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. COOK DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				1550.
Q	IRON (TOTAL) ug/L	01045				16900.
Q	IRON (DISS) ug/L	01046				1710.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 4 S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX					
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	10.
A	ACRYLONITRILE	34215	U		<	10.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002	U		<	10.
Q	ARSENIC (DISS.)	01000	U		<	10.
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 4 S

CO. Cook

DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	5.
A	BROMOFORM	32104	U		<	5.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	5.
A	CARBON TETRACHLORIDE	32102	U		<	5.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	10.
A	CHLOROFORM	32106	U		<	5.
	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook DATE COLLECTED 0 7/0 7/9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520	U		<	5.
Q	CHROMIUM (TOTAL)	01034				110.
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
O	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730	U		<	1.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	10.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	20.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496	U		<	5.
A	1,2-DICHLOROETHANE	34531	U		<	5.
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	10.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
[illegible]	1,2-DICHLOROPROPANE	34541	U		<	5.
[illegible]	Cis-1,3-DICHLOROPROPENE	34704	U		<	5.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	5.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10
A	m-DINITROBENZENE	45622	U		<	10
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
[illegible]	2,6-DINITROTOLUENE	34626	U		<	10.
[illegible]	DINOSEB	38779	U		<	50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582 (30–34)	U (35)	(36)	< (37)	50. (38–47)
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
A	ETHYLBENZENE	78113	U		<	5.
	ETHYL METHACRYLATE	73570	U		<	10.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	10.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	10.
A	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051	U		<	5.00
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	10.
A	METHAPYRILENE	73589	U		<	10.
A	METHOXYCHLOR	39480	U		<	0.5
A	METHYL BROMIDE	34413	U		<	10.
[illegible]	METHYL CHLORIDE	34418	U		<	10.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424	U		<	10.
A	METHYL METHACRYLATE	81597	U		<	10.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				64.8
A	NICKEL (DISS.)	01065	U		<	40.0
	o-NITROANILINE	78142	U		<	•50.
A	m-NITROANILINE	78300	U		<	50.

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Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G24S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.
FACILITY NAME LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	10.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
	2-PICOLINE	77088	U		<	.10.
A	PRONAMIDE	73635	U		<	10.

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RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	200.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	16.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	1.
	STYRENE	77128	U		<	5.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	1.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	5.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	5.
A	TETRACHLOROETHYLENE	34475	U		<	5.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	5.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)

TRANS CODE A (6)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook

DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180	U		<	5.
A	TRICHLOROFLUOROMETHANE	34488	U		<	10.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	10.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057	U		<	10.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				107.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.160
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.680
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.850
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.500
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.290
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.300

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*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 1   TRANS CODE A

REPORT DUE DATE 10/15/94

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G26S (G126S) (see Instructions)

REGION N   CO. Cook

DATE COLLECTED 07/07/94

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED __/__/__

BACKGROUND SAMPLE (X) X

TIME COLLECTED 11:18 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X   ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR YELLOW TAN MODERATELY CLOUDY

COLLECTOR COMMENTS STICK-UP=1.73 FEET

LAB COMMENTS

RECORD CODE L P C S M 0 2   TRANS CODE A   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				63.32
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.63
Q	DEPTH TO WATER (ft below LS)	72019				8.37
A	BTM OF WELL ELEV (ft ref MSL)	72020				576.22
	DEPTH TO WATER FR MEA PT (ft)	72109				10.10
Q	TOTAL WELL DEPTH (ft below LS)	72008				15.78
						.

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G26S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.
FACILITY NAME LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		9.12
Q	pH - Field	00400		2		9.13
Q	pH - Field	00400		3		9.13
Q	pH - Field	00400		4		9.14
Q	SPEC COND - Field (umhos)	00094		1		4440.
Q	SPEC COND - Field (umhos)	00094		2		4450.
Q	SPEC COND - Field (umhos)	00094		3		4460.
Q	SPEC COND - Field (umhos)	00094		4		4480.
Q	Fluoride (Diss) mg/L					0.55
Q	Aluminum (Total) ug/L					2440.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					888.
Q	Sodium (Dissolved) mg/L					746.
A	2,3,7,8-TCDD ng/L		U		<	0.180
A	2,3,7,8-TCDF ng/L		U		<	0.520
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
						.
						.
						.
						.
						.
						.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

CO. COOK

DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	NITRATE AS N (TOTAL)	00620 (30–34)	(35)	(36)	(37)	(38–47)
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				1320.
Q	IRON (TOTAL) ug/L	01045				5080.
Q	IRON (DISS) ug/L	01046				174.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	200.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	50.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	42.
A	ACRYLONITRILE	34215	U		<	50.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	20.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002				61.3
Q	ARSENIC (DISS.)	01000				58.6
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	8.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook

DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
A	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	8.
A	BROMOFORM	32104	U		<	8.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	8.
A	CARBON TETRACHLORIDE	32102	U		<	12.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	8.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	24.
A	CHLOROFORM	32106	U		<	8.
	2-CHLORONAPHTHALENE	34581	U		<	10.
Q	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 6 S

CO. Cook DATE COLLECTED 07/07/94

CWM Chemical Services, Inc.
FACILITY NAME LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520	U		<	12.
Q	CHROMIUM (TOTAL)	01034				69.8
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
Q	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730	U		<	2.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	28.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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the facility sampling and analysis plan. *Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 0 7 S

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (M D Y)

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	10.
A	ACRYLONITRILE	34215	U		<	10.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002	U		<	10.
Q	ARSENIC (DISS.)	01000	U		<	10.
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520	U		<	12.
Q	CHROMIUM (TOTAL)	01034				69.8
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
Q	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730	U		<	2.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	28.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	20.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	12.
A	1,1-DICHLOROETHANE	34496	U		<	8.
A	1,2-DICHLOROETHANE	34531	U		<	8.
Q	1,1-DICHLOROETHYLENE	34501	U		<	12.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	12.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	8.
A	Cis-1,3-DICHLOROPROPENE	34704	U		<	8.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	8.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
A	DINOSEB	38779	U		<	50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook

DATE COLLECTED 0 7 / 0 7 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582 (30–34)	U (35)	(36)	< (37)	220. (38–47)
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
∩	ETHYLBENZENE	78113	U		<	2.
-	ETHYL METHACRYLATE	73570	U		<	44.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	36.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	50.
^	ISODRIN	39430	U		<	10.
..	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook   DATE COLLECTED 07/07/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				12.8
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900				0.21
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	50.
A	METHAPYRILENE	73589	U		<	10.
A	METHOXCHLOR	39480	U		<	0.5
A	METHYL BROMIDE	34413	U		<	16.
--	METHYL CHLORIDE	34418	U		<	16.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	12.
Q	METHYL ETHYL KETONE	81595				370.
A	METHYL IODIDE	77424	U		<	12.
A	METHYL METHACRYLATE	81597	U		<	50.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	32.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				65.4
A	NICKEL (DISS.)	01065	U		<	40.0
--	o-NITROANILINE	78142	U		<	.50.
A	m-NITROANILINE	78300	U		<	50.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (22)

CO. Cook

DATE COLLECTED 07/07/[19]94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
A	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	16.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
A	2-PICOLINE	77088	U		<	.10.
A	PRONAMIDE	73635	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 7 / 9 4 (23–28, M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	50.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	220.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	16.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	2.
	STYRENE	77128	U		<	8.
A	SULFIDE (TOTAL)	00745				190.
A	2,4,5-T	39740	U		<	2.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	8.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	12.
A	TETRACHLOROETHYLENE	34475	U		<	12.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	8.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	8.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	8.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook DATE COLLECTED 07/07/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180	U		<	8.
A	TRICHLOROFLUOROMETHANE	34488	U		<	12.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	36.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
.	VINYL ACETATE	77057	U		<	28.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	24.
Q	ZINC (TOTAL)	01092				74.6
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.180
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.650
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.890
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.520
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.270
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.310

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Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 1 | (1–7) TRANS CODE | A | (8)

REPORT DUE DATE 1 0/1 5/9 4 (36 M D Y 41)

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (G307S) (see instructions) (19–22)

REGION N CO. Cook

DATE COLLECTED 0 7/0 6/9 4 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED __/__/__ __ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)

TIME COLLECTED (24 Hr. Clock) 1 1 : 2 0 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions) ____ (59)

MONITOR POINT SAMPLED BY (see Instructions) F (60) ____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X) X (61) ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, GREY TAN + VERY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP = 2.21 FEET (142)

LAB COMMENTS (150) (199)

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011 (30–34)	(35)	(36)	(37)	64.04 (38–47)
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.88
Q	DEPTH TO WATER (ft below LS)	72019				4.61
A	BTM OF WELL ELEV (ft ref MSL)	72020				575.22
	DEPTH TO WATER FR MEA PT (ft)	72109				6.82
Q	TOTAL WELL DEPTH (ft below LS)	72008				13.27
						.

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 0 7 S

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		7.75
Q	pH - Field	00400		2		7.78
Q	pH - Field	00400		3		7.78
Q	pH - Field	00400		4		7.78
Q	SPEC COND - Field (umhos)	00094		1		2170.
Q	SPEC COND - Field (umhos)	00094		2		2210.
Q	SPEC COND - Field (umhos)	00094		3		2210.
Q	SPEC COND - Field (umhos)	00094		4		2230.
Q	Fluoride (Diss) mg/L					0.41
Q	Aluminum (Total) ug/L					2430.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					185.
Q	Sodium (Dissolved) mg/L					198.
A	2,3,7,8-TCDD ng/L		U		<	0.310
A	2,3,7,8-TCDF ng/L		U		<	0.450
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
						.
						.
						.
						.
						.
						.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1 … 7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9 … 18)

MONITOR POINT NUMBER G 0 7 S (19 … 22)

CO. COOK

DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				185.
Q	IRON (TOTAL) ug/L	01045				8470.
Q	IRON (DISS) ug/L	01046	U		<	100.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook DATE COLLECTED 0 7/0 6/9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30 — 34	35	36	37	38 — 47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	10.
A	ACRYLONITRILE	34215	U		<	10.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002	U		<	10.
Q	ARSENIC (DISS.)	01000	U		<	10.
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1 .. 7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9 – 18) MONITOR POINT NUMBER G 0 7 S (19 – 22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
A	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
--	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	5.
A	BROMOFORM	32104	U		<	5.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	5.
A	CARBON TETRACHLORIDE	32102	U		<	5.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	10.
A	CHLOROFORM	32106	U		<	5.
A	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook

DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ______ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520	U		<	5.
Q	CHROMIUM (TOTAL)	01034				26.0
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
Q	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730	U		<	1.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	10.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

R~~ORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 3 MONITOR POINT NUMBER G 0 7 S

CO. Cook DATE COLLECTED 07/06/94

CWM Chemical Services, Inc.
FACILITY NAME LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	10.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496	U		<	5.
A	1,2-DICHLOROETHANE	34531	U		<	5.
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	10.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	5.
A	Cis-1,3-DICHLOROPROPENE	34704	U		<	5.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	5.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
A	DINOSEB	38779	U		<	.50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 0 7 S

CO. Cook DATE COLLECTED 07/06/94

CWM Chemical Services, Inc.
FACILITY NAME LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582				170.
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
A	ETHYLBENZENE	78113	U		<	5.
	ETHYL METHACRYLATE	73570	U		<	10.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	10.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	10.
A	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook DATE COLLECTED 07/06/94 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				20.1
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	10.
A	METHAPYRILENE	73589	U		<	10.
A	METHOYCHLOR	39480	U		<	0.5
A	METHYL BROMIDE	34413	U		<	10.
	METHYL CHLORIDE	34418	U		<	10.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424	U		<	10.
A	METHYL METHACRYLATE	81597	U		<	10.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067	U		<	40.0
A	NICKEL (DISS.)	01065	U		<	40.0
	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook   DATE COLLECTED 07/06/94 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME   LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
A	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	10.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
..	2-PICOLINE	77088	U		<	10.
A	PRONAMIDE	73635	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0316000058 MONITOR POINT NUMBER G075

CO. Cook DATE COLLECTED 07/06/94

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	220.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	5.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	1.
	STYRENE	77128	U		<	5.
A	SULFIDE (TOTAL)	00745				58.
A	2,4,5-T	39740	U		<	1.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	5.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	5.
A	TETRACHLOROETHYLENE	34475	U		<	5.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	5.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook

DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ______ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180	U		<	5.
A	TRICHLOROFLUOROMETHANE	34488	U		<	10.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	10.
A	0,0,0-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087	U		<	50.0
A	VANADIUM (DISS.)	01085	U		<	50.0
A	VINYL ACETATE	77057	U		<	10.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				123.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.310
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.880
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.740
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.450
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.360
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.520
						.
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)   TRANS CODE: A (8)

REPORT DUE DATE: 10/15/94 (36 M D Y 41)

FEDERAL ID NUMBER: ILD000672121

SITE INVENTORY NUMBER: 0316000058 (9–18)   MONITOR POINT NUMBER: G 3 4 S (G334S) (see Instructions) (19–22)

REGION: N   CO.: Cook   DATE COLLECTED: 07/06/94 (23 M D Y 28)

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED ___/___/___ ___ (42 M D Y 47)

BACKGROUND SAMPLE (X): X (54)   TIME COLLECTED (24 Hr. Clock): 10:20 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions): ____ (59)

MONITOR POINT SAMPLED BY (see Instructions): F (60)   ______ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X): X (61)   ORGANICS (X): ____ (62)

SAMPLE APPEARANCE (63): SLIGHT ODOR, GREY BROWN, VERY CLOUDY (102)

COLLECTOR COMMENTS (103): STICK-UP=2.12 FEET (142)

LAB COMMENTS (150): ____ (199)

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				68.54
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				586.90
Q	DEPTH TO WATER (ft below LS)	72019				3.84
A	BTM OF WELL ELEV (ft ref MSL)	72020				577.20
	DEPTH TO WATER FR MEA PT (ft)	72109				5.96
Q	TOTAL WELL DEPTH (ft below LS)	72008				12.94
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400 (30–34)	(35)	1 (36)	(37)	8.75 (38–47)
Q	pH - Field	00400		2		8.72
Q	pH - Field	00400		3		8.72
Q	pH - Field	00400		4		8.74
Q	SPEC COND - Field (umhos)	00094		1		4300.
Q	SPEC COND - Field (umhos)	00094		2		4350.
Q	SPEC COND - Field (umhos)	00094		3		4380.
Q	SPEC COND - Field (umhos)	00094		4		4390.
Q	Fluoride (Diss) mg/L					0.40
Q	Aluminum (Total) ug/L					13600.
Q	Aluminum (Dissolved) ug/L		U		<	200.
Q	Sodium (Total) mg/L					528.
Q	Sodium (Dissolved) mg/L					418.
A	2,3,7,8-TCDD ng/L		U		<	0.220
A	2,3,7,8-TCDF ng/L		U		<	0.350
A	PCB Aroclor 1016 ug/L		U		<	1.
A	PCB Aroclor 1221 ug/L		U		<	1.
A	PCB Aroclor 1232 ug/l		U		<	1.
A	PCB Aroclor 1242 ug/L		U		<	1.
A	PCB Aroclor 1248 ug/L		U		<	1.
A	PCB Aroclor 1254 ug/L		U		<	1.
A	PCB Aroclor 1260 ug/L		U		<	1.
						.
						.
						.
						.
						.
						.

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Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE: L P C S M 0 2 (1–7) TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)
MONITOR POINT NUMBER: G 3 4 S (19–22)

CO. COOK
DATE COLLECTED: 07/06/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME
LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks Sec Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				939.
Q	IRON (TOTAL) ug/L	01045				34400.
Q	IRON (DISS) ug/L	01046				203.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 |

TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 3 4 S

CO. Cook

DATE COLLECTED 07/06/94

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30 34	35	36	37	38 47
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	10.
A	ACRYLONITRILE	34215	U		<	10.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002				26.3
Q	ARSENIC (DISS.)	01000	U		<	10.
Q	BARIUM (TOTAL)	01007	U		<	200.
Q	BARIUM (DISS.)	01005	U		<	200.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
A	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
--	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	5.
A	BROMOFORM	32104	U		<	5.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	5.
A	CARBON TETRACHLORIDE	32102	U		<	5.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	10.
A	CHLOROFORM	32106	U		<	5.
A	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520	U		<	5.
Q	CHROMIUM (TOTAL)	01034				29.7
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	25.0
A	COPPER (DISS.)	01040	U		<	25.0
O	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730	U		<	1.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	10.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	10.
		30 34	35	36	37	38 47
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496	U		<	5.
A	1,2-DICHLOROETHANE	34531	U		<	5.
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	10.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
.	1,2-DICHLOROPROPANE	34541	U		<	5.
..	Cis-1,3-DICHLOROPROPENE	34704	U		<	5.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	5.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
.	2,6-DINITROTOLUENE	34626	U		<	10.
A	DINOSEB	38779	U		<	.50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 07/06/94 (23–28, M D Y)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	1,4-DIOXANE	81582				69.
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
Q	ETHYLBENZENE	78113	U		<	5.
	ETHYL METHACRYLATE	73570	U		<	10.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	10.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	10.
A	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook   DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281	U		<	1.
Q	LEAD (TOTAL)	01051				257.
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900				0.74
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	10.
A	METHAPYRILENE	73589	U		<	10.
A	METHOXCHLOR	39480	U		<	0.5
A	METHYL BROMIDE	34413	U		<	10.
	METHYL CHLORIDE	34418	U		<	10.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424	U		<	10.
A	METHYL METHACRYLATE	81597	U		<	10.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				50.8
A	NICKEL (DISS.)	01065	U		<	40.0
	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
A	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				.
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	10.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
A	2-PICOLINE	77088	U		<	.10.
A	PRONAMIDE	73635	U		<	10.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ___ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	ETHYL CYANIDE	77007	U		<	10.
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	220.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	5.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	25.0
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	1.
	STYRENE	77128	U		<	5.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	1.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	5.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	5.
A	TETRACHLOROETHYLENE	34475	U		<	5.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	5.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180	U		<	5.
A	TRICHLOROFLUOROMETHANE	34488	U		<	10.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	10.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087				118.
A	VANADIUM (DISS.)	01085	U		<	50.0
	VINYL ACETATE	77057	U		<	10.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				379.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.220
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.990
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.780
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.350
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.290
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.550
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1215

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE: 10/15/94 (36 M D Y 41)

FEDERAL ID NUMBER: I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER: G 2 3 S (G123S) (see Instructions) (19–22)

REGION: N CO.: Cook

DATE COLLECTED: 08/22/94 (23 M D Y 28)

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED __/__/__ (42 M D Y 47)

BACKGROUND SAMPLE (X): X (64)

TIME COLLECTED (24 Hr. Clock): 14:10 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions): ____ (69)

MONITOR POINT SAMPLED BY (see Instructions): F (60) ____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X): X (61) ORGANICS (X): ____ (62)

SAMPLE APPEARANCE (63): MODERATE ODOR, YELLOW, SLIGHTLY TURBID (102)

COLLECTOR COMMENTS (103): STICK-UP=2.38 FEET (142)

LAB COMMENTS (160): VERIFICATION SAMPLE (199)

RECORD CODE: L P C S M 0 2 (1–7) TRANS CODE: A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				68.9
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				588.02
Q	DEPTH TO WATER (ft below LS)	72019				3.73
A	BTM OF WELL ELEV (ft ref MSL)	72020				578.42
	DEPTH TO WATER FR MEA PT (ft)	72109				6.11
Q	TOTAL WELL DEPTH (ft below LS)	72008				18.33
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment ... Data Formats with Data in Column 36 or Columns 36-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 0 8/2 2/9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400 (30–34)	(35)	1 (36)	(37)	8.40 (38–47)
Q	pH - Field	00400		2		8.40
Q	pH - Field	00400		3		8.40
Q	pH - Field	00400		4		8.40
Q	SPEC COND - Field (umhos)	00094		1		4000.
Q	SPEC COND - Field (umhos)	00094		2		3990.
Q	SPEC COND - Field (umhos)	00094		3		4000.
Q	SPEC COND - Field (umhos)	00094		4		3990.
Q	Fluoride (Diss) mg/L					.
Q	Aluminum (Total) ug/L					.
Q	Aluminum (Dissolved) ug/L					.
Q	Sodium (Total) ug/L					.
Q	Sodium (Dissolved) ug/L					.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 3 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ___ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552				
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997				
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
A	ACRYLONITRILE	34215				
	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089				
Q	ANTHRACENE	34220				
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				
Q	ARSENIC (DISS.)	01000				
Q	BARIUM (TOTAL)	01007				
Q	BARIUM (DISS.)	01005				
Q	BENZENE	34030	U		<	5
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
A	BENZO (ghi) PERYLENE	34521				
	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	BERYLLIUM (TOTAL)	01012				
A	BERYLLIUM (DISS.)	01010				
A	ALPHA - BHC	39337				
A	BETA - BHC	39338				
A	DELTA - BHC	46323				
A	LINDANE	39782				
A	BIS (2-Chloroethoxy) METHANE	34278				
A	BIS (2-Chloroethyl) ETHER	34273				
A	BIS(2-Chloro-1-Methylethyl)ETHER	73522				
A	BIS (2-Ethylhexyl) PHTHALATE	39100				
A	BROMODICHLOROMETHANE	32101				
A	BROMOFORM	32104				
A	4-BROMOPHENYL PHENYL ETHER	34636				
A	BUTYL BENZYL PHTHALATE	34292				
Q	CADMIUM (TOTAL)	01027				
Q	CADMIUM (DISS.)	01025				
A	CARBONDISULFIDE	81309	U		<	5.
A	CARBON TETRACHLORIDE	32102				
A	CHLORDANE	39350				
Q	p-CHLOROANILINE	73529				
Q	CHLOROBENZENE	34301				
A	CHLOROBENZILATE	39460				
A	p-CHLORO-M-CRESOL	34452				
A	CHLOROETHANE	34311				
A	CHLOROFORM	32106				
A	2-CHLORONAPHTHALENE	34581				
A	2-CHLOROPHENOL	34586				
A	4-CHLOROPHENYL PHENYL ETHER	34641				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 3 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				
Q	CHROMIUM (DISS.)	01030				
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
A	COPPER (TOTAL)	01042				
A	COPPER (DISS.)	01040				
O	m-CRESOL	77151				
	o-CRESOL	77152				
Q	p-CRESOL	77146				
A	CYANIDE (TOTAL)	00720				
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730	U	<	1.
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536				
A	m-DICHLOROBENZENE	34566				
	p-DICHLOROBENZENE	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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*Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 _

MONITOR POINT NUMBER G 2 3 S

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582				
A	DIPHENYLAMINE	77579				
A	DISULFOTON	81888				
A	ENDOSULFAN I	34361				
A	ENDOSULFAN II	34356				
A	ENDOSULFAN SULFATE	34351				
A	ENDRIN	39390				
A	ENDRIN ALDEHYDE	34366				
Q	ETHYLBENZENE	78113				
	ETHYL METHACRYLATE	73570				
A	ETHYL METHANESULFONATE	73571				
A	FAMPHUR	38462				
A	FLUORANTHENE	34376				
A	FLUORENE	34381				
A	HEPTHACHLOR	39410				
A	HEPTACHLOR EPOXIDE	39420				
A	HEXACHLOROBENZENE	39700				
A	HEXACHLOROBUTADIENE	39702				
A	HEXACHLOROCYCLOPENTADIENE	34386				
A	HEXACHLOROETHANE	34396				
A	HEXACHLOROPHENE	73575				
A	HEXACHLOROPROPENE	73576				
A	2-HEXANONE	77103				
A	INDENO (1,2,3-cd)PYRENE	34403				
A	ISOBUTYL-ALCOHOL	77033	U		<	10.
A	ISODRIN	39430				
	ISOPHORONE	34408				
A	ISOSAFROLE	73582				

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*Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 3 S

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				
Q	LEAD (DISS.)	01049				
A	MERCURY (TOTAL)	71900				
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOXYCHLOR	39480				
A	METHYL BROMIDE	34413				
-	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067	U		<	40.
A	NICKEL (DISS.)	01065				
·	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 1 — TRANS CODE A

REPORT DUE DATE 1 0 / 1 5 / 9 4

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 4 S (G124S) (see instructions)

REGION N CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 1 1 : 3 5 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions) OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE NO ODOR, TAN, MODERATELY CLOUDY

COLLECTOR COMMENTS STICK-UP=1.44 FEET

LAB COMMENTS VERIFICATION SAMPLE

RECORD CODE L P C S M 0 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				60.3
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.59
Q	DEPTH TO WATER (ft below LS)	72019				8.25
A	BTM OF WELL ELEV (ft ref MSL)	72020				572.56
	DEPTH TO WATER FR MEA PT (ft)	72109				9.69
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.28
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 4 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	pH - Field	00400		1		7.56
Q	pH - Field	00400		2		7.55
Q	pH - Field	00400		3		7.55
Q	pH - Field	00400		4		7.55
Q	SPEC COND - Field (umhos)	00094		1		4950.
Q	SPEC COND - Field (umhos)	00094		2		4970.
Q	SPEC COND - Field (umhos)	00094		3		4990.
Q	SPEC COND - Field (umhos)	00094		4		5000.
Q	Fluoride (Diss) mg/L					.
Q	Aluminum (Total) ug/L					.
Q	Aluminum (Dissolved) ug/L					.
Q	Sodium (Total) ug/L					.
Q	Sodium (Dissolved) ug/L					.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/1					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1215
LPC 160 1/90 (CONT)

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1 – 7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9 – 18)

MONITOR POINT NUMBER G 2 4 S

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 19 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281 (30–34)	(35)	(36)	(37)	(38–47)
Q	LEAD (TOTAL)	01051				
Q	LEAD (DISS.)	01049				
A	MERCURY (TOTAL)	71900				
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOY.CHLOR	39480				
A	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067				40.4
A	NICKEL (DISS.)	01065				
	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE 1 0/ 1 5/ 9 4

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER (see Instructions) G 2 6 S (G126S)

REGION N CO. Cook

DATE COLLECTED 0 8/ 2 2/ 9 4

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED (24 Hr. Clock) 0 9 : 5 0

UNABLE TO COLLECT SAMPLE (see Instructions) ____

MONITOR POINT SAMPLED BY (see Instructions) F

OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR, YELLOW G REY, MODERATELY CLOUD

COLLECTOR COMMENTS STICK-UP=1.74 FEET

LAB COMMENTS VERIFICATION SAMPLE

RECORD CODE L P C S M 0 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				63.7
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				583.74
Q	DEPTH TO WATER (ft below LS)	72019				8.25
A	BTM OF WELL ELEV (ft ref MSL)	72020				576.21
	DEPTH TO WATER FR MEA PT (ft)	72109				9.99
Q	TOTAL WELL DEPTH (ft below LS)	72008				15.78
						.

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 6 MONITOR POINT NUMBER G 2 6 S

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc. LAB

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		9.21
Q	pH - Field	00400		2		9.22
Q	pH - Field	00400		3		9.23
Q	pH - Field	00400		4		9.23
Q	SPEC COND - Field (umhos)	00094		1		4440.
Q	SPEC COND - Field (umhos)	00094		2		4430.
Q	SPEC COND - Field (umhos)	00094		3		4480.
Q	SPEC COND - Field (umhos)	00094		4		4420.
Q	Fluoride (Diss) mg/L					
Q	Aluminum (Total) ug/L					
Q	Aluminum (Dissolved) ug/L					
Q	Sodium (Total) ug/L					
Q	Sodium (Dissolved) ug/L					
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1211
LPC 160 1/90 (CONT)

Printed on Recycled Paper

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				
Q	LEAD (DISS.)	01049				
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOYCHLOR	39480				
A	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067				253.
A	NICKEL (DISS.)	01065				
	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 6 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007 (30–34)	(35)	(36)	(37)	(38–47)
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
A	SULFIDE (TOTAL)	00745				6200.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
A	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analyses plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 | TRANS CODE: A

REPORT DUE DATE 10/15/94

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER (see Instructions) G07S (G307S)

REGION N CO. Cook

DATE COLLECTED 08/22/94

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED (24 Hr. Clock) 10:40

UNABLE TO COLLECT SAMPLE (see Instructions) ____

MONITOR POINT SAMPLED BY (see Instructions) F

OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE NO ODOR, TAN, VERY CLOUDY

COLLECTOR COMMENTS STICK-UP=2.15 FEET

LAB COMMENTS VERIFICATION SAMPLE

RECORD CODE L P C S M 0 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				63.7
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				585.95
Q	DEPTH TO WATER (ft below LS)	72019				2.60
A	BTM OF WELL ELEV (ft ref MSL)	72020				575.22
	DEPTH TO WATER FR MEA PT (ft)	72109				4.75
Q	TOTAL WELL DEPTH (ft below LS)	72008				13.33
						.

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 3 MONITOR POINT NUMBER G 0 7 S

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		11.76
Q	pH - Field	00400		2		11.76
Q	pH - Field	00400		3		11.77
Q	pH - Field	00400		4		11.77
Q	SPEC COND - Field (umhos)	00094		1		2190.
Q	SPEC COND - Field (umhos)	00094		2		2210.
Q	SPEC COND - Field (umhos)	00094		3		2210.
Q	SPEC COND - Field (umhos)	00094		4		2200.
Q	Fluoride (Diss) mg/L					
Q	Aluminum (Total) ug/L					
Q	Aluminum (Dissolved) ug/L					
Q	Sodium (Total) ug/L					
Q	Sodium (Dissolved) ug/L					
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 ICORII

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (5)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 0 7 S (19–22)

CO. Cook

DATE COLLECTED 0 8/2 2/9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007 (30–34)	(35)	(36)	(37)	(38–47)
A	PYRENE	34469				
A	PYRIDINE	77045				
A	SAFROLE	77545				
A	SELENIUM (TOTAL)	01147				
A	SELENIUM (DISS.)	01145				
A	SILVER (TOTAL)	01077				
A	SILVER (DISS.)	01075				
A	SILVEX	39760				
	STYRENE	77128				
A	SULFIDE (TOTAL)	00745	U		<	1000.
A	2,4,5-T	39740				
A	1,2,4,5 TETRACHLOROBENZENE	77734				
A	1,1,1,2-TETRACHLOROETHANE	77562				
A	1,1,2,2-TETRACHLOROETHANE	34516				
A	TETRACHLOROETHYLENE	34475				
A	2,3,4,6-TETRACHLOROPHENOL	77770				
A	SULFOTEPP	82201				
A	THALLIUM (TOTAL)	01059				
A	THALLIUM (DISS.)	01057				
A	TIN (TOTAL)	01102				
A	TIN (DISS.)	01100				
Q	TOLUENE	34010				
A	o-TOLUIDINE	77142				
A	TOXAPHENE	39400				
A	1,2,4-TRICHLOROBENZENE	34551				
	1,1,1-TRICHLOROETHANE	34506				
Q	1,1,2-TRICHLOROETHANE	34511				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213

Printed on Recycled Paper

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 1 | TRANS CODE | A |

REPORT DUE DATE 10/15/94

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G34S (G334S) (see Instructions)

REGION N CO. Cook

DATE COLLECTED 08/22/94

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 11:05 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions) ____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR, BROWN, VERY CLOUDY

COLLECTOR COMMENTS STICK-UP= 2.09 FEET

LAB COMMENTS VERIFICATION SAMPLE

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A | (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				68.4
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				587.44
Q	DEPTH TO WATER (ft below LS)	72019				3.33
A	BTM OF WELL ELEV (ft ref MSL)	72020				577.80
	DEPTH TO WATER FR MEA PT (ft)	72109				5.42
Q	TOTAL WELL DEPTH (ft below LS)	72008				12.97
						.

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 3 4 S

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		8.89
Q	pH - Field	00400		2		8.89
Q	pH - Field	00400		3		8.89
Q	pH - Field	00400		4		8.89
Q	SPEC COND - Field (umhos)	00094		1		4740.
Q	SPEC COND - Field (umhos)	00094		2		4820.
Q	SPEC COND - Field (umhos)	00094		3		4790.
Q	SPEC COND - Field (umhos)	00094		4		4800.
Q	Fluoride (Diss) mg/L					
Q	Aluminum (Total) ug/L					
Q	Aluminum (Dissolved) ug/L					
Q	Sodium (Total) ug/L					
Q	Sodium (Dissolved) ug/L					
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1222
LPC 160 1/90 (CONT)

Printed on Recycled Paper

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281 (30–34)	(35)	(36)	(37)	(38–47)
Q	LEAD (TOTAL)	01051				321.
Q	LEAD (DISS.)	01049				
A	MERCURY (TOTAL)	71900				0.33
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOYCHLOR	39480				
A	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067				82.7
A	NICKEL (DISS.)	01065				
	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analyses plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 3 4 S (19–22)

CO. Cook   DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
A	VANADIUM (TOTAL)	01087				142.
A	VANADIUM (DISS.)	01085				
.	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175				
Q	XYLENE	81551				
Q	ZINC (TOTAL)	01092				
Q	ZINC (DISS.)	01090				
A	TETRACHLORODIBENZO-p-DIOXINS ng/l	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/l	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/l	90001				
A	TETRACHLORODIBENZOFURANS ng/l	90002				
A	PENTACHLORODIBENZOFURANS ng/l	90003				
A	HEXACHLORODIBENZOFURANS ng/l	90004				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analyses plan.

Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1
TRANS CODE: A

REPORT DUE DATE 1 0/ 1 5/ 9 4

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 4 3 S (G343S) (see Instructions)

REGION N CO. Cook

DATE COLLECTED 0 8/ 2 2/ 9 4

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 1 1 : 2 5 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions) OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE NO ODOR, BROWN, VERY C LOUDY

COLLECTOR COMMENTS STICK-UP=2.00 FEET

LAB COMMENTS VERIFICATION SAMPLE

RECORD CODE L P C S M 0 2 TRANS CODE A (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				65.5
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				581.93
Q	DEPTH TO WATER (ft below LS)	72019				2.61
A	BTM OF WELL ELEV (ft ref MSL)	72020				571.46
	DEPTH TO WATER FR MEA PT (ft)	72109				4.61
Q	TOTAL WELL DEPTH (ft below LS)	72008				13.14
						.

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

.TE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 4 3 S

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		7.93
Q	pH - Field	00400		2		7.93
Q	pH - Field	00400		3		7.92
Q	pH - Field	00400		4		7.91
Q	SPEC COND - Field (umhos)	00094		1		2150.
Q	SPEC COND - Field (umhos)	00094		2		2180.
Q	SPEC COND - Field (umhos)	00094		3		2210.
Q	SPEC COND - Field (umhos)	00094		4		2210.
Q	Fluoride (Diss) mg/L					
Q	Aluminum (Total) ug/L					
Q	Aluminum (Dissolved) ug/L					
Q	Sodium (Total) ug/L					
Q	Sodium (Dissolved) ug/L					
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

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*Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

Printed on Recycled Paper

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				572.
Q	LEAD (DISS.)	01049				
A	MERCURY (TOTAL)	71900				0.24
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOXCHLOR	39480				
A	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067				113.
A	NICKEL (DISS.)	01065				
	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180				
A	TRICHLOROFLUOROMETHANE	34488				
A	2,4,5-TRICHLOROPHENOL	77687				
A	2,4,6-TRICHLOROPHENOL	34621				
A	1,2,3-TRICHLOROPROPANE	77443				
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652				
A	SYM-TRINITROBENZENE	73653				
A	VANADIUM (TOTAL)	01087				138.
A	VANADIUM (DISS.)	01085				
A	VINYL ACETATE	77057				
Q	VINYL CHLORIDE	39175				
Q	XYLENE	81551				
Q	ZINC (TOTAL)	01092				
Q	ZINC (DISS.)	01090				
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675				
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000				
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001				
A	TETRACHLORODIBENZOFURANS ng/L	90002				
A	PENTACHLORODIBENZOFURANS ng/L	90003				
A	HEXACHLORODIBENZOFURANS ng/L	90004				

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IL 532 1213

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 1 | TRANS CODE | A |

REPORT DUE DATE 10/15/94

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058

MONITOR POINT NUMBER G43S (G343S) (see instructions)

REGION N CO. Cook

DATE COLLECTED 07/06/94

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____

DATE RECEIVED ___/___/___

BACKGROUND SAMPLE (X) X

TIME COLLECTED 12:10 (24 Hr. Clock)

UNABLE TO COLLECT SAMPLE ____ (see Instructions)

MONITOR POINT SAMPLED BY F (see Instructions) OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X ORGANICS (X) ____

SAMPLE APPEARANCE SLIGHT ODOR, BROWN, VERY CLOUDY

COLLECTOR COMMENTS STICK-UP=2.06 FEET

LAB COMMENTS

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A | (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				64.94
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				587.52
Q	DEPTH TO WATER (ft below LS)	72019				3.02
A	BTM OF WELL ELEV (ft ref MSL)	72020				577.07
	DEPTH TO WATER FR MEA PT (ft)	72109				5.08
Q	TOTAL WELL DEPTH (ft below LS)	72008				13.47
						.

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 4 3 S

CO. Cook

DATE COLLECTED 07/06/94

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field		00400		1		7.89
Q	pH - Field		00400		2		7.88
Q	pH - Field		00400		3		7.86
Q	pH - Field		00400		4		7.86
Q	SPEC COND - Field (umhos)		00094		1		2130.
Q	SPEC COND - Field (umhos)		00094		2		2110.
Q	SPEC COND - Field (umhos)		00094		3		2170.
Q	SPEC COND - Field (umhos)		00094		4		2160.
Q	Fluoride (Diss)	mg/L					0.66
Q	Aluminum (Total)	ug/L					17300.
Q	Aluminum (Dissolved)	ug/L		U		<	200.
Q	Sodium (Total)	mg/L					210.
Q	Sodium (Dissolved)	mg/L					215.
A	2,3,7,8-TCDD	ng/L		U		<	0.190
A	2,3,7,8-TCDF	ng/L		U		<	0.400
A	PCB Aroclor 1016	ug/L		U		<	1.
A	PCB Aroclor 1221	ug/L		U		<	1.
A	PCB Aroclor 1232	ug/l		U		<	1.
A	PCB Aroclor 1242	ug/L		U		<	1.
A	PCB Aroclor 1248	ug/L		U		<	1.
A	PCB Aroclor 1254	ug/L		U		<	1.
A	PCB Aroclor 1260	ug/L		U		<	1.
							.
							.
							.
							.
							.
							.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 4 3 S (19–22)

CO. COOK   DATE COLLECTED 0 7 / 0 6 / 9 4 (23–28, M D Y)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
	NITRATE AS N (TOTAL)	00620				
	NITRATE AS N (DISS)	00618				
	BORON (TOTAL)	01022				
	BORON (DISS)	01020				
	CHLORIDE (TOTAL)	00940				
Q	CHLORIDE (DISS) mg/L	00941				246.
Q	IRON (TOTAL) ug/L	01045				52600.
Q	IRON (DISS) ug/L	01046	U		<	100.
	MANGANESE (TOTAL)	01055				
	MANGANESE (DISS)	01056				
	TOTAL DISSOLVED SOLIDS (TDS)	70300				
	SULFATE (TOTAL)	00945				
	SULFATE (DISS)	00946				
	ALACHLOR	77825				
	ALDICARB	39053				
	ATRAZINE	39033				
	CARBOFURAN	81405				
	CIS-1,2-DICHLOROETHYLENE	77093				
	MONOCHLOROBENZENE	34301				
	PHENOLS	32730				
	PCBs (AS DECACHLORO-BIPHENYL)	39516				
	XYLENES (META, PARA, ORTHO)	34020				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)

SITE INVENTORY NUMBER: 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER: G 4 3 S (19–22)

CO. Cook   DATE COLLECTED: 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
	APPENDIX IX					
A	ACENAPHTHENE	34205	U		<	10.
A	ACENAPHTHYLENE	34200	U		<	10.
Q	ACETONE	81552	U		<	34.
A	ACETOPHENONE	81553	U		<	10.
Q	ACETONITRILE	76997	U		<	10.
A	2-ACETYLAMINOFLUORENE	73501	U		<	10.
A	ACROLEIN	34210	U		<	10.
A	ACRYLONITRILE	34215	U		<	10.
	ALDRIN	39330	U		<	0.1
A	ALLYL CHLORIDE	78109	U		<	10.
A	4-AMINOBIPHENYL	77581	U		<	10.
Q	ANILINE	77089	U		<	10.
Q	ANTHRACENE	34220	U		<	10.
A	ANTIMONY (TOTAL)	01097	U		<	300.
A	ANTIMONY (DISS.)	01095	U		<	300.
A	ARAMITE	73510	U		<	10.
Q	ARSENIC (TOTAL)	01002				52.6
Q	ARSENIC (DISS.)	01000				13.2
Q	BARIUM (TOTAL)	01007				455.
Q	BARIUM (DISS.)	01005				218.
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526	U		<	10.
A	BENZO (b) FLUORANTHENE	34230	U		<	10.
A	BENZO (k) FLUORANTHENE	34242	U		<	10.
A	BENZO (ghi) PERYLENE	34521	U		<	10.
	BENZO (a) PYRENE	34247	U		<	10.
A	BENZYL ALCOHOL	77147	U		<	10.

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**Only Keypunch with Data in Column 35 or Columns 38-47*

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 4 3 S

CO. Cook DATE COLLECTED 07/06/94

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	BERYLLIUM (TOTAL)	01012	U		<	5.0
A	BERYLLIUM (DISS.)	01010	U		<	5.0
A	ALPHA - BHC	39337	U		<	0.1
A	BETA - BHC	39338	U		<	0.1
A	DELTA - BHC	46323	U		<	0.05
A	LINDANE	39782	U		<	0.1
A	BIS (2-Chloroethoxy) METHANE	34278	U		<	10.
A	BIS (2-Chloroethyl) ETHER	34273	U		<	10.
A	BIS(2-Chloro-1-Methylethyl)ETHER	73522	U		<	10.
--	BIS (2-Ethylhexyl) PHTHALATE	39100	U		<	50.
A	BROMODICHLOROMETHANE	32101	U		<	5.
A	BROMOFORM	32104	U		<	5.
A	4-BROMOPHENYL PHENYL ETHER	34636	U		<	10.
A	BUTYL BENZYL PHTHALATE	34292	U		<	10.
Q	CADMIUM (TOTAL)	01027	U		<	5.0
Q	CADMIUM (DISS.)	01025	U		<	5.0
A	CARBONDISULFIDE	81309	U		<	5.
A	CARBON TETRACHLORIDE	32102	U		<	5.
A	CHLORDANE	39350	U		<	1.
Q	p-CHLOROANILINE	73529	U		<	10.
Q	CHLOROBENZENE	34301	U		<	5.
A	CHLOROBENZILATE	39460	U		<	1.
A	p-CHLORO-M-CRESOL	34452	U		<	10.
A	CHLOROETHANE	34311	U		<	10.
A	CHLOROFORM	32106	U		<	5.
A	2-CHLORONAPHTHALENE	34581	U		<	10.
	2-CHLOROPHENOL	34586	U		<	10.
A	4-CHLOROPHENYL PHENYL ETHER	34641	U		<	10.

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IEPA/DLPC | CHEMICAL ANALYSIS FORM |

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)   TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook   DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME   LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
A	CHLOROPRENE	81520	U		<	5.
Q	CHROMIUM (TOTAL)	01034				52.5
Q	CHROMIUM (DISS.)	01030	U		<	10.0
A	CHRYSENE	34320	U		<	10.
A	COBALT (TOTAL)	01037	U		<	50.0
A	COBALT (DISS.)	01035	U		<	50.0
A	COPPER (TOTAL)	01042	U		<	125.
A	COPPER (DISS.)	01040	U		<	25.0
O	m-CRESOL	77151	U		<	10.
	o-CRESOL	77152	U		<	10.
Q	p-CRESOL	77146	U		<	10.
A	CYANIDE (TOTAL)	00720	U		<	20.
A	CYANIDE (DISS.)	00723				.
A	2,4-D	39730	U		<	1.
A	4,4-DDD	39310	U		<	0.1
A	4,4,-DDE	39320	U		<	0.1
A	4,4,-DDT	39300	U		<	0.1
A	DIALLATE	73540	U		<	10.
A	DIBENZ (a,h) ANTHRACENE	34556	U		<	10.
A	DIBENZOFURAN	81302	U		<	10.
A	DIBROMOCHLOROMETHANE	32105	U		<	5.
A	1,2-DIBROMO-3-CHLOROPROPANE	38437	U		<	10.
A	1,2-DIBROMOETHANE	77651	U		<	10.
A	Di-n-BUTYL PHTHALATE	39110	U		<	10.
Q	O-DICHLOROBENZENE	34536	U		<	10.
A	m-DICHLOROBENZENE	34566	U		<	10.
	p-DICHLOROBENZENE	34571	U		<	10.
A	3,3-DICHLOROBENZIDINE	34631	U		<	20.

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IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 07/06/94 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRANS-1,4-DICHLORO-2-BUTENE	73547	U		<	10.
Q	DICHLORODIFLUOROMETHANE	34668	U		<	10.
A	1,1-DICHLOROETHANE	34496	U		<	5.
A	1,2-DICHLOROETHANE	34531	U		<	5.
Q	1,1-DICHLOROETHYLENE	34501	U		<	5.
A	TRANS-1,2-DICHLOROETHYLENE	34546	U		<	10.
Q	2,4-DICHLOROPHENOL	34601	U		<	10.
Q	2,6-DICHLOROPHENOL	77541	U		<	10.
	1,2-DICHLOROPROPANE	34541	U		<	5.
	Cis-1,3-DICHLOROPROPENE	34704	U		<	5.
A	trans-1,3-DICHLOROPROPENE	34699	U		<	5.
A	DIELDRIN	39380	U		<	0.1
A	DIETHYL PHTHALATE	34336	U		<	10.
A	PHOSPHOROTHIOIC ACID	73553	U		<	10.
A	DIMETHOATE	46314	U		<	10.
A	p(DIMETHYLAMINO) AZOBENZENE	73558	U		<	10.
A	7,12-DIMETHYLBENZ (a) ANTHRACENE	73559	U		<	10.
A	3,3-DIMETHYLBENZIDINE	73560	U		<	10.
A	A,ALPHA-DIMETHYLPHENETHYLAMINE	73564	U		<	10.
Q	2,4-DIMETHYLPHENOL	34606	U		<	10.
A	DIMETHYL PHTHALATE	34341	U		<	10.
A	m-DINITROBENZENE	45622	U		<	10.
A	4,6-DINITRO-O-CRESOL	34657	U		<	50.
A	2,4-DINITROPHENOL	34616	U		<	50.
A	2,4-DINITROTOLUENE	34611	U		<	10.
	2,6-DINITROTOLUENE	34626	U		<	10.
	DINOSEB	38779	U		<	.50.
A	DI-N-OCTYL PHTHALATE	34596	U		<	10.

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 4 3 S

CO. Cook

DATE COLLECTED 0 7 / 0 6 / 9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	1,4-DIOXANE	81582	U		<	50.
A	DIPHENYLAMINE	77579	U		<	10.
A	DISULFOTON	81888	U		<	10.
A	ENDOSULFAN I	34361	U		<	0.05
A	ENDOSULFAN II	34356	U		<	0.1
A	ENDOSULFAN SULFATE	34351	U		<	0.5
A	ENDRIN	39390	U		<	0.1
A	ENDRIN ALDEHYDE	34366	U		<	0.1
Q	ETHYLBENZENE	78113	U		<	5.
	ETHYL METHACRYLATE	73570	U		<	10.
A	ETHYL METHANESULFONATE	73571	U		<	10.
A	FAMPHUR	38462	U		<	10.
A	FLUORANTHENE	34376	U		<	10.
A	FLUORENE	34381	U		<	10.
A	HEPTHACHLOR	39410	U		<	0.05
A	HEPTACHLOR EPOXIDE	39420	U		<	0.5
A	HEXACHLOROBENZENE	39700	U		<	10.
A	HEXACHLOROBUTADIENE	39702	U		<	10.
A	HEXACHLOROCYCLOPENTADIENE	34386	U		<	50.
A	HEXACHLOROETHANE	34396	U		<	10.
A	HEXACHLOROPHENE	73575	U		<	500.
A	HEXACHLOROPROPENE	73576	U		<	10.
A	2-HEXANONE	77103	U		<	10.
A	INDENO (1,2,3-cd)PYRENE	34403	U		<	10.
A	ISOBUTYL-ALCOHOL	77033	U		<	10.
A	ISODRIN	39430	U		<	10.
	ISOPHORONE	34408	U		<	10.
A	ISOSAFROLE	73582	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.
FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281	U		<	1.
		30 34	35	36	37	38 47
Q	LEAD (TOTAL)	01051				566.
Q	LEAD (DISS.)	01049	U		<	5.0
A	MERCURY (TOTAL)	71900				0.68
A	MERCURY (DISS.)	71890	U		<	0.20
A	METHACRYLONITRILE	81593	U		<	10.
A	METHAPYRILENE	73589	U		<	10.
A	METHOYCHLOR	39480	U		<	0.5
A	METHYL BROMIDE	34413	U		<	10.
	METHYL CHLORIDE	34418	U		<	10.
A	3-METHYLCHOLANTHRENE	73591	U		<	10.
A	METHYLENE BROMIDE	77596	U		<	10.
Q	METHYLENE CHLORIDE	34423	U		<	5.
Q	METHYL ETHYL KETONE	81595	U		<	10.
A	METHYL IODIDE	77424	U		<	10.
A	METHYL METHACRYLATE	81597	U		<	10.
A	METHYL METHANESULFONATE	73595	U		<	10.
A	2-METHYLNAPHTHALENE	77416	U		<	10.
A	METHYL PARATHION	39600	U		<	10.
Q	4-METHYL-2 PENTANONE	78133	U		<	10.
Q	NAPHTHALENE	34696	U		<	10.
A	1,4-NAPHTHOQUINONE	73599	U		<	10.
A	1,NAPHTHYLAMINE	73600	U		<	10.
A	2,NAPHTHYLAMINE	73601	U		<	10.
A	NICKEL (TOTAL)	01067				75.3
A	NICKEL (DISS.)	01065	U		<	40.0
	o-NITROANILINE	78142	U		<	50.
A	m-NITROANILINE	78300	U		<	50.

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Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook

DATE COLLECTED 0 7 / 0 6 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	p-NITROANILINE	73605	U		<	50.
A	NITROBENZENE	34447	U		<	10.
A	o-NITROPHENOL	34591	U		<	10.
A	p-NITROPHENOL	34646	U		<	50.
A	4-NITROQUINOLENE 1-OXIDE	73608	U		<	50.
A	N-NITROSODI-n-BUTYLAMINE	78207	U		<	10.
A	N-NITROSODIETHYLAMINE	78200	U		<	10.
A	N-NITROSODIMETHYLAMINE	34438	U		<	10.
A	N-NITROSODIPHENYLAMINE	34433	U		<	10.
	N-NITROSODIPROPYLAMINE	34428	U		<	10.
A	N-NITROSOMETHYLETHYLAMINE	73613	U		<	10.
A	N-NITROSOMORPHOLINE	73617	U		<	10.
A	N NITROSOPIPERIDINE	73619	U		<	10.
A	N-NITROSOPYRROLIDINE	73620	U		<	10.
A	5-NITRO-O-TOLUIDINE	73622	U		<	10.
A	PARATHION	39540	U		<	10.
A	POLYCHLORINATED BIPHENYLS	39516				
A	PENTACHLOROBENZENE	77793	U		<	10.
A	PENTACHLOROETHANE	81501	U		<	10.
A	PENTACHLORONITROBENZENE	81316	U		<	10.
A	PENTACHLOROPHENOL	39032	U		<	5.00
A	PHENACETIN	73626	U		<	10.
A	PHENENTHRENE	34461	U		<	10.
Q	PHENOL	32730	U		<	10.
A	p-PHENYLENEDIAMINE	73628	U		<	100.
A	PHORATE	46313	U		<	20.
	2-PICOLINE	77088	U		<	10.
A	PRONAMIDE	73635	U		<	10.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook DATE COLLECTED 0 7 / 0 6 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	ETHYL CYANIDE	77007	U		<	10.
		30 34	35	36	37	38 47
A	PYRENE	34469	U		<	10.
A	PYRIDINE	77045	U		<	200.
A	SAFROLE	77545	U		<	10.
A	SELENIUM (TOTAL)	01147	U		<	5.0
A	SELENIUM (DISS.)	01145	U		<	5.0
A	SILVER (TOTAL)	01077	U		<	125.
A	SILVER (DISS.)	01075	U		<	25.0
A	SILVEX	39760	U		<	1.
	STYRENE	77128	U		<	5.
A	SULFIDE (TOTAL)	00745	U		<	50.
A	2,4,5-T	39740	U		<	1.
A	1,2,4,5 TETRACHLOROBENZENE	77734	U		<	10.
A	1,1,1,2-TETRACHLOROETHANE	77562	U		<	5.
A	1,1,2,2-TETRACHLOROETHANE	34516	U		<	5.
A	TETRACHLOROETHYLENE	34475	U		<	5.
A	2,3,4,6-TETRACHLOROPHENOL	77770	U		<	10.
A	SULFOTEPP	82201	U		<	10.
A	THALLIUM (TOTAL)	01059	U		<	10.0
A	THALLIUM (DISS.)	01057	U		<	10.0
A	TIN (TOTAL)	01102	U		<	200.
A	TIN (DISS.)	01100	U		<	200.
Q	TOLUENE	34010	U		<	5.
A	o-TOLUIDINE	77142	U		<	10.
A	TOXAPHENE	39400	U		<	5.
A	1,2,4-TRICHLOROBENZENE	34551	U		<	10.
	1,1,1-TRICHLOROETHANE	34506	U		<	5.
Q	1,1,2-TRICHLOROETHANE	34511	U		<	5.

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*Only Keypunch with Data in Column 35 or Columns 38-47

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)   MONITOR POINT NUMBER G 4 3 S (19–22)

CO. Cook   DATE COLLECTED 07/06/94 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	TRICHLOROETHYLENE	39180	U		<	5.
A	TRICHLOROFLUOROMETHANE	34488	U		<	10.
A	2,4,5-TRICHLOROPHENOL	77687	U		<	50.
A	2,4,6-TRICHLOROPHENOL	34621	U		<	10.
A	1,2,3-TRICHLOROPROPANE	77443	U		<	10.
A	O,O,O-TRIETHYL PHOSPHOROTHIOATE	73652	U		<	10.
A	SYM-TRINITROBENZENE	73653	U		<	10.
A	VANADIUM (TOTAL)	01087				96.3
A	VANADIUM (DISS.)	01085	U		<	50.0
A	VINYL ACETATE	77057	U		<	10.
Q	VINYL CHLORIDE	39175	U		<	10.
Q	XYLENE	81551	U		<	10.
Q	ZINC (TOTAL)	01092				391.
Q	ZINC (DISS.)	01090	U		<	20.0
A	TETRACHLORODIBENZO-p-DIOXINS ng/L	34675	U		<	0.190
A	PENTACHLORODIBENZO-p-DIOXINS ng/L	90000	U		<	0.870
A	HEXACHLORODIBENZO-p-DIOXINS ng/L	90001	U		<	0.610
A	TETRACHLORODIBENZOFURANS ng/L	90002	U		<	0.400
A	PENTACHLORODIBENZOFURANS ng/L	90003	U		<	0.410
A	HEXACHLORODIBENZOFURANS ng/L	90004	U		<	0.460
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)   TRANS CODE: A (8)

REPORT DUE DATE: 10/15/94 (36 M D Y 41)

FEDERAL ID NUMBER: ILD000672121

SITE INVENTORY NUMBER: 0316000058 (9–18)
MONITOR POINT NUMBER (see Instructions): G20S (G120S) (19–22)

REGION: N   CO.: Cook
DATE COLLECTED: 08/22/94 (23 M D Y 28)

FACILITY NAME: CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X): X (64)
TIME COLLECTED (24 Hr. Clock): 13:35 (55 H M 58)

UNABLE TO COLLECT SAMPLE (see Instructions): ____ (59)

MONITOR POINT SAMPLED BY (see Instructions): F (60)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X): X (61)   ORGANICS (X): ____ (62)

SAMPLE APPEARANCE (63–102): SLIGHT ODOR, YELLOW GREY, VERY CLOUDY

COLLECTOR COMMENTS (103–142): STICK-UP=0.78 FEET

LAB COMMENTS (150–199): VERIFICATION SAMPLE

RECORD CODE: L P C S M 0 2 (1–7)   TRANS CODE: A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	TEMP OF WATER (unfiltered °F)	00011				59.5
Q	SPEC COND (unfiltered umhos)	00094				.
Q	pH (unfiltered units)	00400				.
Q	ELEV OF GW SURF (ft ref MSL)	71993				586.43
Q	DEPTH TO WATER (ft below LS)	72019				6.63
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.07
	DEPTH TO WATER FR MEA PT (ft)	72109				7.41
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.99
						.

IEPA/DLPC CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 TRANS CODE A

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 MONITOR POINT NUMBER G 2 0 S

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4

CWM Chemical Services, Inc. LAB ____

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	pH - Field	00400		1		7.04
Q	pH - Field	00400		2		7.04
Q	pH - Field	00400		3		7.04
Q	pH - Field	00400		4		7.05
Q	SPEC COND - Field (umhos)	00094		1		3120.
Q	SPEC COND - Field (umhos)	00094		2		3140.
Q	SPEC COND - Field (umhos)	00094		3		3140.
Q	SPEC COND - Field (umhos)	00094		4		3150.
Q	Fluoride (Diss) mg/L					.
Q	Aluminum (Total) ug/L					.
Q	Aluminum (Dissolved) ug/L					.
Q	Sodium (Total) ug/L					.
Q	Sodium (Dissolved) ug/L					.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

Printed on Recycled Paper

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 0 S (19–22)

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	CHLOROPRENE	81520				
Q	CHROMIUM (TOTAL)	01034				
Q	CHROMIUM (DISS.)	01030				
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
A	COPPER (TOTAL)	01042				
A	COPPER (DISS.)	01040				
Q	m-CRESOL	77151				
	o-CRESOL	77152				
Q	p-CRESOL	77146				
A	CYANIDE (TOTAL)	00720				21.
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536				
A	m-DICHLOROBENZENE	34566				
	p-DICHLOROBENZENE	34571				
A	3,3-DICHLOROBENZIDINE	34631				

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain-of-custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)   TRANS CODE: A (8)

REPORT DUE DATE 10/15/94 (36 M D Y 41)

FEDERAL ID NUMBER ILD000672121

SITE INVENTORY NUMBER 0316000058 (9–18)

MONITOR POINT NUMBER G21S (G121S) (see Instructions) (19–22)

REGION N CO. Cook

DATE COLLECTED 08/22/94 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (64)

TIME COLLECTED 13:45 (24 Hr. Clock) (55 H M 58)

UNABLE TO COLLECT SAMPLE ____ (see Instructions) (59)

MONITOR POINT SAMPLED BY F (see Instructions) (60)   OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61)   ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) MODERATE ODOR, GREY Y ELLOW, SLIGHTLY CLOUD (102)

COLLECTOR COMMENTS (103) STICK-UP=0.67 FEET (142)

LAB COMMENTS (150) VERIFICATION SAMPLE (199)

RECORD CODE L P C S M 0 2 (1–7)   TRANS CODE A (8)   (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011				59.2
Q	SPEC COND (unfiltered umhos)	00094				
Q	pH (unfiltered units)	00400				
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.05
Q	DEPTH TO WATER (ft below LS)	72019				11.17
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.19
	DEPTH TO WATER FR MEA PT (ft)	72109				11.84
Q	TOTAL WELL DEPTH (ft below LS)	72008				20.03

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment ... Management Center ... *Only Enter with Data in Column 36 or Columns 38-47

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook DATE COLLECTED 08/22/94 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
Q	pH - Field	00400		1		7.94
Q	pH - Field	00400		2		7.94
Q	pH - Field	00400		3		7.95
Q	pH - Field	00400		4		7.95
Q	SPEC COND - Field (umhos)	00094		1		14100.
Q	SPEC COND - Field (umhos)	00094		2		14200.
Q	SPEC COND - Field (umhos)	00094		3		14100.
Q	SPEC COND - Field (umhos)	00094		4		14100.
Q	Fluoride (Diss) mg/L					.
Q	Aluminum (Total) ug/L					.
Q	Aluminum (Dissolved) ug/L					.
Q	Sodium (Total) ug/L					.
Q	Sodium (Dissolved) ug/L					.
A	2,3,7,8-TCDD ng/L					.
A	2,3,7,8-TCDF ng/L					.
A	PCB Aroclor 1016 ug/L					.
A	PCB Aroclor 1221 ug/L					.
A	PCB Aroclor 1232 ug/l					.
A	PCB Aroclor 1242 ug/L					.
A	PCB Aroclor 1248 ug/L					.
A	PCB Aroclor 1254 ug/L					.
A	PCB Aroclor 1260 ug/L					.
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All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

Only Keypunch with Data in Column 35 or Columns 38-47

IL 532 1213
LPC 160 1/90 (CONT)

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ZEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc. LAB ____ (29)

FACILITY NAME

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
	APPENDIX IX	30–34	35	36	37	38–47
A	ACENAPHTHENE	34205				
A	ACENAPHTHYLENE	34200				
Q	ACETONE	81552				
A	ACETOPHENONE	81553				
Q	ACETONITRILE	76997				
A	2-ACETYLAMINOFLUORENE	73501				
A	ACROLEIN	34210				
A	ACRYLONITRILE	34215				
	ALDRIN	39330				
A	ALLYL CHLORIDE	78109				
A	4-AMINOBIPHENYL	77581				
Q	ANILINE	77089				
Q	ANTHRACENE	34220				
A	ANTIMONY (TOTAL)	01097				
A	ANTIMONY (DISS.)	01095				
A	ARAMITE	73510				
Q	ARSENIC (TOTAL)	01002				
Q	ARSENIC (DISS.)	01000				
Q	BARIUM (TOTAL)	01007				
Q	BARIUM (DISS.)	01005				
Q	BENZENE	34030	U		<	5.
A	BENZO (a) ANTHRACENE	34526				
A	BENZO (b) FLUORANTHENE	34230				
A	BENZO (k) FLUORANTHENE	34242				
A	BENZO (ghi) PERYLENE	34521				
	BENZO (a) PYRENE	34247				
A	BENZYL ALCOHOL	77147				

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*Only Keypunch with Data in Column 35 or Columns 38-47

11 632 1723

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 1 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38–47)
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				
Q	LEAD (DISS.)	01049				
A	MERCURY (TOTAL)	71900				
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOYCHLOR	39480				
A	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067				85.5
A	NICKEL (DISS.)	01065	U		<	180.
	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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Only Keypunch with Data in Column 35 or Columns 38-47

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

RECORD CODE: L P C S M 0 1 (1–7)
TRANS CODE: A (8)

REPORT DUE DATE 1 0/1 5/9 4 (36 M D Y 41)

FEDERAL ID NUMBER I L D 0 0 0 6 7 2 1 2 1

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 2 S (G122S) (see Instructions) (19–22)

REGION N CO. Cook

DATE COLLECTED 0 8/2 2/9 4 (23 M D Y 28)

FACILITY NAME CWM Chemical Services, Inc.

FOR IEPA USE ONLY

LAB ____ (29)

DATE RECEIVED ___/___/___ ___ (42 M D Y 47)

BACKGROUND SAMPLE (X) X (54)

TIME COLLECTED 1 3 : 5 5 (24 Hr. Clock) (55 H M 58)

UNABLE TO COLLECT SAMPLE ____ (see Instructions) (59)

MONITOR POINT SAMPLED BY F (see Instructions) (60)

OTHER (SPECIFY) ____

SAMPLE FIELD FILTERED — INORGANICS (X) X (61) ORGANICS (X) ____ (62)

SAMPLE APPEARANCE (63) SLIGHT ODOR, YELLOW T AN, VERY CLOUDY (102)

COLLECTOR COMMENTS (103) STICK-UP = 1.14 FEET (142)

LAB COMMENTS (160) VERIFICATION SAMPLE (199)

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
Q	TEMP OF WATER (unfiltered °F)	00011 (30–34)	(35)	(36)	(37)	(38–47)
Q	SPEC COND (unfiltered umhos)	00094				
Q	pH (unfiltered units)	00400				
Q	ELEV OF GW SURF (ft ref MSL)	71993				582.78
Q	DEPTH TO WATER (ft below LS)	72019				10.31
A	BTM OF WELL ELEV (ft ref MSL)	72020				573.51
	DEPTH TO WATER FR MEA PT (ft)	72109				11.45
Q	TOTAL WELL DEPTH (ft below LS)	72008				19.58

IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7)

TRANS CODE | A | (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18)

MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook

DATE COLLECTED 0 8 / 2 2 / 9 4 (23 M D Y 28)

CWM Chemical Services, Inc.

FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
		30–34	35	36	37	38–47
Q	pH - Field	00400		1		
Q	pH - Field	00400		2		
Q	pH - Field	00400		3		
Q	pH - Field	00400		4		
Q	SPEC COND - Field (umhos)	00094		1		8500.
Q	SPEC COND - Field (umhos)	00094		2		8550.
Q	SPEC COND - Field (umhos)	00094		3		8490.
Q	SPEC COND - Field (umhos)	00094		4		8510.
Q	Fluoride (Diss) mg/L					
Q	Aluminum (Total) ug/L					
Q	Aluminum (Dissolved) ug/L					
Q	Sodium (Total) ug/L					
Q	Sodium (Dissolved) ug/L					
A	2,3,7,8-TCDD ng/L					
A	2,3,7,8-TCDF ng/L					
A	PCB Aroclor 1016 ug/L					
A	PCB Aroclor 1221 ug/L					
A	PCB Aroclor 1232 ug/l					
A	PCB Aroclor 1242 ug/L					
A	PCB Aroclor 1248 ug/L					
A	PCB Aroclor 1254 ug/L					
A	PCB Aroclor 1260 ug/L					

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IL 532 1213

LPC 160 1/90 (CONT)

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CHEMICAL ANALYSIS FORM

RECORD CODE L P C S M 0 2 (1–7) TRANS CODE A (8)

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8 (9–18) MONITOR POINT NUMBER G 2 2 S (19–22)

CO. Cook DATE COLLECTED 0 8 / 2 2 / 9 4 (23–28; M D Y)

CWM Chemical Services, Inc.
FACILITY NAME

LAB ____ (29)

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	CHLOROPRENE	81520 (30–34)	(35)	(36)	(37)	(38–47)
Q	CHROMIUM (TOTAL)	01034				
Q	CHROMIUM (DISS.)	01030				
A	CHRYSENE	34320				
A	COBALT (TOTAL)	01037				
A	COBALT (DISS.)	01035				
A	COPPER (TOTAL)	01042				21.2
A	COPPER (DISS.)	01040				
Q	m-CRESOL	77151				
	o-CRESOL	77152				
Q	p-CRESOL	77146				
A	CYANIDE (TOTAL)	00720				
A	CYANIDE (DISS.)	00723				
A	2,4-D	39730				
A	4,4-DDD	39310				
A	4,4,-DDE	39320				
A	4,4,-DDT	39300				
A	DIALLATE	73540				
A	DIBENZ (a,h) ANTHRACENE	34556				
A	DIBENZOFURAN	81302				
A	DIBROMOCHLOROMETHANE	32105				
A	1,2-DIBROMO-3-CHLOROPROPANE	38437				
A	1,2-DIBROMOETHANE	77651				
A	Di-n-BUTYL PHTHALATE	39110				
Q	O-DICHLOROBENZENE	34536				
A	m-DICHLOROBENZENE	34566				
	p-DICHLOROBENZENE	34571				
A	3,3-DICHLOROBENZIDINE	34631				

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IEPA/DLPC

CHEMICAL ANALYSIS FORM

RECORD CODE | L | P | C | S | M | 0 | 2 | TRANS CODE | A |

SITE INVENTORY NUMBER 0 3 1 6 0 0 0 0 5 8

MONITOR POINT NUMBER G 2 2 S

CO. Cook

DATE COLLECTED 0 8/2 2/9 4

CWM Chemical Services, Inc.

FACILITY NAME

LAB

	LAB MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE (ug/L)	STORET NUMBER	Remarks See Inst.	Replicate	< or >	VALUE
A	KEPONE	81281				
Q	LEAD (TOTAL)	01051				
Q	LEAD (DISS.)	01049	U		<	18.0
A	MERCURY (TOTAL)	71900	U		<	0.20
A	MERCURY (DISS.)	71890				
A	METHACRYLONITRILE	81593				
A	METHAPYRILENE	73589				
A	METHOYCHLOR	39480				
A	METHYL BROMIDE	34413				
	METHYL CHLORIDE	34418				
A	3-METHYLCHOLANTHRENE	73591				
A	METHYLENE BROMIDE	77596				
Q	METHYLENE CHLORIDE	34423				
Q	METHYL ETHYL KETONE	81595				
A	METHYL IODIDE	77424				
A	METHYL METHACRYLATE	81597				
A	METHYL METHANESULFONATE	73595				
A	2-METHYLNAPHTHALENE	77416				
A	METHYL PARATHION	39600				
Q	4-METHYL-2 PENTANONE	78133				
Q	NAPHTHALENE	34696				
A	1,4-NAPHTHOQUINONE	73599				
A	1,NAPHTHYLAMINE	73600				
A	2,NAPHTHYLAMINE	73601				
A	NICKEL (TOTAL)	01067				10.2
A	NICKEL (DISS.)	01065				
	o-NITROANILINE	78142				
A	m-NITROANILINE	78300				

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APPENDIX E-11

LIST OF HAZARDOUS WASTES MANAGED IN SURFACE IMPOUNDMENTS

HAZARDOUS WASTE CODES ASSOCIATED WITH
CWM CHEMICAL SERVICES SURFACE IMPOUNDMENT CLOSURE

The following hazardous waste codes are associated with sludges and liner from the closure of the facilities process water ponds. These codes are derived from liquid wastes incinerated during the period May 20, 1988, to November 7, 1988, and solid waste incinerated from the period of June 20, 1988, to November 7, 1988, because sludge was previously removed from the ponds during the period from June 10-20, 1988.

D Codes	P Codes	P Codes	U Codes	U Codes
D001	P001	P113	U058	U148
D002	P002	P120	U060	U152
D003	P003	P122	U061	U154
D004	P004	P123	U067	U157
D005	P005		U068	U159
D006	P018	U Codes	U069	U160
D007	P010		U070	U161
D008	P011	U001	U071	U162
D009	P012	U002	U072	U165
D010	P013	U003	U073	U167
D011	P014	U004	U077	U169
D012	P015	U006	U078	U170
D013	P018	U007	U080	U182
D014	P022	U008	U088	U188
D015	P024	U009	U103	U190
D016	P028	U010	U107	U196
	P029	U011	U108	U201
F Codes	P030	U012	U110	U204
	P037	U018	U112	U209
F001	P042	U019	U117	U210
F002	P044	U020	U119	U211
F003	P047	U021	U121	U213
F004	P051	U022	U122	U218
F005	P059	U029	U123	U219
F006	P070	U031	U125	U220
F007	P075	U034	U127	U222
F009	P077	U036	U128	U223
F024	P087	U037	U129	U226
	P089	U039	U131	U228
K Codes	P094	U044	U133	U238
	P098	U048	U134	U239
K085	P102	U051	U135	U240
K086	P104	U052	U136	U244
K095	P105	U053	U138	U246
K096	P106	U055	U140	U247
	P108	U056	U142	U248
		O057	U144	U328
			U147	U359

The spent solvent regulations apply to the codes F001-F005. The treatment limits set by the TCLP are as follows:

Acetone	0.59 ppm
n-Butyl Alcohol	5.0 ppm
Carbon Disulfide	4.81 ppm
Carbon Tetrachloride	0.96 ppm
Chlorobenzene	0.05 ppm
Cresols (and cresylic acid)	0.75 ppm
Cyclohexanone	0.75 ppm
1,2-Dichlorobenzene	0.125 ppm
Ethyl Acetate	0.75 ppm
Ethyl Benzene	0.053 ppm
Ethyl Ether	0.75 ppm
Isobutanol	5.0 ppm
Methanol	0.75 ppm
Methylene Chloride	0.96 ppm
Methyl Ethyl Ketone	0.75 ppm
Methyl Isobutyl Ketone	0.33 ppm
Nitrobenzene	0.125 ppm
Pyridine	0.33 ppm
Tetrachloroethylene	0.05 ppm
Toluene	0.33 ppm
1,1,1-Trichlorethane	0.41 ppm
1,1,2-Trichloro-1,2,2-trifluoroethane	0.96 ppm
Trichloroethylene	0.091 ppm
Trichlorofluoromethane	0.96 ppm
Xylene	0.15 ppm

The first, second and third third landban regulations apply to the following waste codes. The waste codes are listed with the final treatment standards:

Waste Code	Constituent	Treatment Standard	Method
D003 (3rd)	Cyanide (total)	110 ppm	TCA
	Cyanide (amenable)	9.1 ppm	TCA
D004 (3rd)	Arsenic	5.6 ppm	TCLP
D006	Cadmium	0.14 ppm	TCLP
D007	Chromium	0.094 ppm	TCLP
D008	Lead	0.51 ppm	TCLP
D009	Mercury	0.025 ppm	TCLP
D010	Selenium	5.6 ppm	TCLP
D011	Silver	0.072 ppm	TCLP

Waste Code	Constituent	Treatment Standard	Method
D012 (3rd)	Endrin	0.13 ppm	TCA
D013 (3rd)	Lindane	0.066 ppm	TCA
D014 (3rd)	Methoxychlor	0.18 ppm	TCA
D015 (3rd)	Toxaphene	1.3 ppm	TCA
D016 (3rd)	2,4-D	10 ppm	TCA
F002 (3rd)	1,1,2-Trichloroethane	6.2 ppm	TCA
F005 (3rd)	Benzene	3.72 ppm	TCA
	2-Ethoxyethanol	47.5 ppm	TCA
	2-Nitropropane	5.6 ppm	TCA
F006	Cadmium	0.066 ppm	TCLP
	Chromium (total)	5.2 ppm	TCLP
	Lead	0.51 ppm	TCLP
	Nickel	0.32 ppm	TCLP
	Silver	0.072 ppm	TCLP
	Cyanides (Total)	590 ppm	TCA
	Cyanides (Amenable)	30 ppm	TCA
F007	Cadmium	0.066 ppm	TCLP
	Chromium (total)	5.2 ppm	TCLP
	Cyanides (Total)	590 ppm	TCA
	Cyanides (Amenable)	30 ppm	TCA
	Lead	0.51 ppm	TCLP
	Nickel	0.32 ppm	TCLP
	Silver	0.072 ppm	TCLP
F009	Cadmium	0.066 ppm	TCLP
	Chromium (total)	5.2 ppm	TCLP
	Cyanides (Total)	590 ppm	TCA
	Cyanides (Amenable)	30 ppm	TCA
	Lead	0.51 ppm	TCLP
	Nickel	0.32 ppm	TCLP
	Silver	0.072 ppm	TCLP

Waste Code	Constituent	Treatment Standard		Method
F024	2-Chloro-1,3-butadiene	0.28	ppm	TCA
	3-Chloropropene	0.28	ppm	TCA
	1,1-Dichloroethane	0.014	ppm	TCA
	1,2-Dichloroethane	0.014	ppm	TCA
	1,2-Dichloropropane	0.014	ppm	TCA
	cis-1,3-Dichloropropene	0.014	ppm	TCA
	trans-1,3-Dichloro-proprene	0.014	ppm	TCA
	Bis(2-ethylhexyl) phthalate	1.8	ppm	TCA
	Hexachloroethane	1.8	ppm	TCA
	Hexachlorodibenzo-furans	0.001	ppm	TCA
	Hexachlorodibenzo-p-dioxins	0.001	ppm	TCA
	Pentachlorodibenzofurans	0.001	ppm	TCA
	Pentachlorodibenzo-p dioxins	0.001	ppm	TCA
	Tetrachlorodibenzofurans	0.001	ppm	TCA
	Chromium (total)	0.073	ppm	TCLP
K085 (3rd)	Benzene	4.4	ppm	TCA
	Chlorobenzene	4.4	ppm	TCA
	o-Dichlorobenzene	4.4	ppm	TCA
	m-Dichlorobenzene	4.4	ppm	TCA
	p-Dichlorobenzene	4.4	ppm	TCA
	1,2,4-Trichlorobenzene	4.4	ppm	TCA
	1,2,4,5-Tetrachloro-benzene	4.4	ppm	TCA
	Pentachlorobenzene	4.4	ppm	TCA
	Hexachlorobenzene	4.4	ppm	TCA
	Aroclor 1016	0.13	ppm	TCA
	Aroclor 1221	0.13	ppm	TCA
	Aroclor 1232	0.13	ppm	TCA
	Aroclor 1242	0.13	ppm	TCA
	Aroclor 1248	0.13	ppm	TCA
	Aroclor 1254	0.13	ppm	TCA
	Aroclor 1260	0.13	ppm	TCA

Waste Code	Constituent	Treatment Standard		Method
K086	Acetone	0.37	ppm	TCA
	Bis(2-ethylhexyl) phthalate	0.49	ppm	TCA
	n-Butyl Alcohol	0.37	ppm	TCA
	Cyclohexanone	0.49	ppm	TCA
	1,2-Dichlorobenzene	0.49	ppm	TCA
	Ethyl Acetate	0.37	ppm	TCA
	Ethyl Benzene	0.031	ppm	TCA
	Methanol	0.37	ppm	TCA
	Methyl ethyl ketone	0.37	ppm	TCA
	Methyl isobutyl ketone	0.37	ppm	TCA
	Methylene chloride	0.037	ppm	TCA
	Napthalene	0.49	ppm	TCA
	Nitrobenzene	0.49	ppm	TCA
	Toluene	0.031	ppm	TCA
	1,1,1-Trichloroethane	0.044	ppm	TCA
	Trichloroethylene	0.031	ppm	TCA
	Xylenes	0.015	ppm	TCA
	Chromium (total)	0.094	ppm	TCLP
	Lead	0.37	ppm	TCLP
K086 (3rd)	Acetone	0.14	ppm	TCA
	Acetophenone	9.6	ppm	TCA
	Bis(2-ethylhexyl) phthalate	28	ppm	TCA
	n-Butyl Alcohol	2.6	ppm	TCA
	Butylbenzylphthalate	28	ppm	TCA
	Cyclohexanone	1.9	ppm	TCA
	1,2-Dichlorobenzene	6.2	ppm	TCA
	Diethyl phthalate	28	ppm	TCA
	Dimethyl phthalate	28	ppm	TCA
	Di-n-butyl phthalate	28	ppm	TCA
	Di-n-octyl phthalate	28	ppm	TCA
	Ethyl Acetate	5.6	ppm	TCA
	Ethyl Benzene	33	ppm	TCA
	Methanol	140	ppm	TCA
	Methyl ethyl ketone	200	ppm	TCA
	Methyl isobutyl ketone	33	ppm	TCA
	Methylene chloride	31	ppm	TCA
	Napthalene	5.9	ppm	TCA
	Nitrobenzene	14	ppm	TCA
	Toluene	28	ppm	TCA
	1,1,1-Trichloroethane	6.2	ppm	TCA
	Trichloroethylene	5.6	ppm	TCA
	Xylenes	33	ppm	TCA
	Cyanides (total)	1.5	ppm	TCA

Waste Code	Constituent	Treatment Standard		Method
K095	1,1,1,2-Tetrachloroethane	5.6	ppm	TCA
	1,1,2,2-Tetrachloroethane	5.6	ppm	TCA
	Tetrachlorethylene	6.0	ppm	TCA
	1,1,2-Trichloroethane	6.0	ppm	TCA
	Trichloroethylene	5.6	ppm	TCA
	Hexachloroethane	28	ppm	TCA
	Pentachlorethane	5.6	ppm	TCA
K096	1,3-Dichlorobenzene	5.6	ppm	TCA
	Pentachlorethane	5.6	ppm	TCA
	1,1,1,2-Tetrachloroethane	5.6	ppm	TCA
	1,1,2,2-Tetrachloroethane	5.6	ppm	TCA
	Tetrachlorethylene	6.0	ppm	TCA
	1,2,4-Trichlorobenzene	19	ppm	TCA
	Trichloroethylene	5.6	ppm	TCA
	1,1,2-Trichloroethane	6.0	ppm	TCA
P004 (3rd)	Aldrin	0.066	ppm	TCA
P010 P011 P012	Arsenic	5.6	ppm	TCLP
P013	Cyanide (total)	110	ppm	TCA
	Cyanide (amenable)	9.1	ppm	TCA
P024 (3rd)	p-Chloroaniline	16	ppm	TCA
P029	Cyanide (total)	110	ppm	TCA
	Cyanide (amenable)	9.1	ppm	TCA
P030	Cyanide (total)	110	ppm	TCA
	Cyanide (amenable)	9.1	ppm	TCA
P037 (3rd)	Dieldrin	0.13	ppm	TCA
P047 (3rd)	4,6-dinitrocresol	140	ppm	TCA
P051 (3rd)	Endrin	0.13	ppm	TCA
	Endrin aldehyde	0.13	ppm	TCA
P059 (3rd)	Heptachlor	0.066	ppm	TCA
	Heptachlor epoxide	0.066	ppm	TCA
P077 (3rd)	p-Nitroaniline	28	ppm	TCA

Waste Code	Constituent	Treatment Standard		Method
P089	Parathion	0.1	ppm	TCA
P094	Phorate	0.1	ppm	TCA
P098	Cyanide (total)	110	ppm	TCA
	Cyanide (amenable)	9.1	ppm	TCA
P104	Cyanide (total)	110	ppm	TCA
	Cyanide (amenable)	9.1	ppm	TCA
	Silver	0.072	ppm	TCLP
P106	Cyanide (total)	110	ppm	TCA
	Cyanide (amenable)	9.1	ppm	TCA
P123 (3rd)	Toxaphene	1.3	ppm	TCA
U002 (3rd)	Acetone	0.14	ppm	TCA
U003 (3rd)	Acetonitrile	0.35	ppm	TCA
U004 (3rd)	Acetophenone	9.6	ppm	TCA
U009 (3rd)	Acrylonitrile	0.28	ppm	TCA
U012 (3rd)	Aniline	14	ppm	TCA
U018 (3rd)	Benz(a)anthracene	3.6	ppm	TCA
U019 (3rd)	Benzene	36	ppm	TCA
U022 (3rd)	Benzo(a)pyrene	3.6	ppm	TCA
U029 (3rd)	Methyl Bromide	15	ppm	TCA
U031 (3rd)	n-Butanol	2.6	ppm	TCA
U036 (3rd)	Chlordane	0.13	ppm	TCA
U037 (3rd)	Chlorobenzene	5.7	ppm	TCA
U039 (3rd)	p-Chloro-m-cresol	14	ppm	TCA
U044 (3rd)	Chloroform	6.2	ppm	TCA
U048 (3rd)	2-Chlorophenol	5.7	ppm	TCA

Waste Code	Constituent	Treatment Standard		Method
U051 (3rd)	Napthalene	1.5	ppm	TCA
	Pentachlorophenol	7.4	ppm	TCA
	Phenanthrene	1.5	ppm	TCA
	Pyrene	1.5	ppm	TCA
	Toluene	28	ppm	TCA
	Xylenes	33	ppm	TCA
	Lead	0.51	ppm	TCLP
U052 (3rd)	o-Cresol	5.6	ppm	TCA
	Cresols (m & p isomers)	3.2	ppm	TCA
U057 (3rd)	Cyclohexanone	1.9	ppm	TCA
U060 (3rd)	o,p'-DDD	0.087	ppm	TCA
	p,p'-DDD	0.087	ppm	TCA
U061 (3rd)	o,p'-DDT	0.087	ppm	TCA
	p,p'-DDT	0.087	ppm	TCA
	o,p'-DDD	0.087	ppm	TCA
	p,p'-DDD	0.087	ppm	TCA
	o,p'-DDE	0.087	ppm	TCA
	p,p'-DDE	0.087	ppm	TCA
U067 (3rd)	Ethylene Dibromide	15	ppm	TCA
U068 (3rd)	Dibromomethane	15	ppm	TCA
U069	Di-n-butyl phthalate	28	ppm	TCA
U070 (3rd)	o-Dichlorobenzene	6.2	ppm	TCA
U071 (3rd)	m-Dichlorobenzene	6.2	ppm	TCA
U072 (3rd)	p-Dichlorobenzene	6.2	ppm	TCA
U073 (3rd)	3,3'-Dichlorobenzidine	16	ppm	TCA
U077 (3rd)	1,2-Dichloroethane	6.2	ppm	TCA
U078 (3rd)	1,1-Dichloroethylene ~~??Trans-1,2-dichloro-ethylene???~~	6.2	ppm	TCA
U080 (3rd)	Methylene Chloride	31	ppm	TCA
U088	Diethyl phthalate	28	ppm	TCA
U107	Di-n-octyl phthalate	28	ppm	TCA
U108 (3rd)	1,4-Dioxane	280	ppm	TCA

Waste Code	Constituent	Treatment Standard		Method
U112 (3rd)	Ethyl Acetate	5.6	ppm	TCA
U117 (3rd)	Ethyl Ether	140	ppm	TCA
U121 (3rd)	Flourotrichloromethane	33	ppm	TCA
U127 (3rd)	Hexachlorobenzene	37	ppm	TCA
U128 (3rd)	Hexachlorobutadiene	28	ppm	TCA
U129 (3rd)	alpha-BHC	0.066	ppm	TCA
	beta-BHC	0.066	ppm	TCA
	delta-BHC	0.066	ppm	TCA
	gamma-BHC (Lindane)	0.066	ppm	TCA
U131 (3rd)	Hexachloroethane ~~??Hexachlorophene??~~	30	ppm	TCA
U136 (3rd)	Arsenic	5.6	ppm	TCLP
U138 (3rd)	Iodomethane	65	ppm	TCA
U140 (3rd)	Isobutanol	170	ppm	TCA
U142 (3rd)	Kepone	0.043	ppm	TCA
U144	Lead	0.51	ppm	TCLP
U152 (3rd)	Methacrylonitrile	84	ppm	TCA
U157 (3rd)	3-Methylchloanthrene	33	ppm	TCA
U159 (3rd)	Methyl ethyl ketone	200	ppm	TCA
U161 (3rd)	Methyl isobutyl ketone	33	ppm	TCA
U162 (3rd)	Methyl methacrylate	160	ppm	TCA
U165 (3rd)	Napthalene	5.9	ppm	TCA
U167 (3rd)	1-Napthylamine	15	ppm	TCA
U169 (3rd)	Nitrobenzene	14	ppm	TCA
U170 (3rd)	4-Nitrophenol	65	ppm	TCA
U188 (3rd)	Phenol	6.2	ppm	TCA

Waste Code	Constituent	Treatment Standard		Method
U190	Phthalic anhydride (measured as phthalic acid)	28	ppm	TCA
U196 (3rd)	Pyridine	16	ppm	TCA
U201 (3rd)	Resourcinol	1.8	ppm	TCA
U204	Selenium	5.6	ppm	TCLP
U209 (3rd)	1,1,2,2-Tetrachloro-ethane	6.2	ppm	TCA
U210 (3rd)	Tetrachloroethylene	6.2	ppm	TCA
U211 (3rd)	Carbon tetrachloride	6.2	ppm	TCA
U220 (3rd)	Toluene	28	ppm	TCA
U226 (3rd)	1,1,1-Trichloroethane	6.2	ppm	TCA
U228 (3rd)	Trichloroethylene	5.6	ppm	TCA
U239 (3rd)	Xylene	33	ppm	TCA
U240 (3rd)	2,4-d	10	ppm	TCA
U247 (3rd)	Methoxychlor	0.18	ppm	TCA

APPENDIX E-12

SECTION L, CONTINUING RELEASES FROM PERMITTED FACILITIES, TAKEN FROM CWMCS RCRA PART B APPLICATION, JUNE 1992

SECTION L

CONTINUING RELEASES FROM PERMITTED FACILITIES

The CWM Chemical Services, Inc. (CWMCS) Chicago Incinerator facility occupies approximately 30.1 acres of land on the east shore of Lake Calumet within the city of Chicago, Cook County, Illinois. The site is leased from the Illinois International Port, formerly known as the Chicago Regional Port District, and is located at 11700 South Stony Island Avenue. The facility, which is operated by CWMCS (formerly SCA Chemical Services, Inc.) is found in Section 24, Township 37 North, Range 14 East, between 41° 41' 11" and 41° 41' 23" west longitude, and 87° 34' 33" and 87° 35' 8" north latitude (Ref. 1, Part 1, Section 2.1, page 1).

The incinerator complex occupies the southeast section of the property. Directly north of the incinerator complex is an employee parking lot and a vacant area. The remainder of the site is located on a pier extending west from the vacant area approximately 2,300 feet into the lake. The area is constructed of fill built along the shore of Lake Calumet. This filled pier was constructed in the early 1970s for Calumet Harbor. The property has been utilized as a waste management facility since 1971 (Ref. 1, Part 1, Section 2.1, page 1).

The property is located in an area that is zoned industrial and utilized for a number of waste management operations. Adjacent to Stony Island Avenue, east of the CWMCS property, is the Paxton II Landfill, a solid waste and non-hazardous special waste disposal facility in which a trench system of waste burial was utilized. Adjacent to the CWMCS property on the south is the Clean Harbors (formerly Chem-Clear) facility which utilizes a chemical process to remove heavy metals and suspended solids, and a biological reduction process to remove organics from aqueous waste streams. Adjacent to the CWMCS property to the north is vacant land. North and south of the pier are Slips Nos. 8 and 6, respectively, of Lake Calumet. The body of the lake lies west of the pier (Ref. 1, Part 1, Section 2.1, page 3).

Hyon operated the facility from 1971 to 1979, when it combined with Envirotherm. Hyon/Envirotherm operated the site for approximately 200 days until SCA Chemical Services, Inc. (SCA) purchased the equipment and permits for the site in November, 1980. SCA was purchased by Waste Management, Inc. in October 1984, and in September 1988 its name was changed to CWM Chemical Services, Inc. (Ref. 1, Part 1, Section 2.4, page 13).

The Hyon operation was reported to include incineration of liquid and hazardous wastes and the neutralization and biological treatment of aqueous hazardous wastes. These activities occurred over the entire 30 acre area. The pier was occupied by the two Wastewater Basins, a High Solids Basin, Activated Sludge and stabilization-settling basins (presently occupied by the interim status surface impoundments), activated sludge treatment basins, a clarifier, and biochemical treatment basins (Ref. 1, Part 1, Section 2.5, page 14).

Waste liquid storage was provided within a diked tank farm. The total capacity of this tank farm was reported to be about 260,000 gallons. In addition, a drum receiving dock, dumping station, and mixing and transfer facilities were also utilized (Ref. 1, Part 1, Section 2.5, page 14).

During the period 1972-1976, approximately 68 million gallons of waste were received and treated at the plant. About ten percent of this waste material was incinerated, and the remainder was treated biochemically. Polychlorinated Biphenyls (PCB) wastes were also received and incinerated at the facility during this period, but approximate quantities are unknown (Ref. 1, Part 1, Section 2.5, page 16).

At the time of the SCA takeover, an environmental site assessment described the Tank Farm, Biobeds, underground pipeline associated with the scrubber water system, and a Drum Handling Area as potential contaminant source areas. A later assessment showed a drum handling area near the southeast corner of the scrubber water impoundments (Ref. 1, Part 1, Section 2.5, page 18).

In late 1980, SCA purchased all the assets of Hyon Waste Management and Envirotherm/Illinois. SCA was allowed to operate the facility under Envirotherm's temporary site registration. However, SCA intended to redevelop the site and was required to obtain the required permits prior to full scale operations. Much of the redevelopment concerned upgrading the active incineration and waste processing area in the southeast portion of the site (Ref. 1, Part 1, Section 2.6, page 21).

A site restoration plan was submitted to the Illinois Environmental Protection Agency (IEPA) in February 1981. This plan outlined a pier restoration program that consisted of the following: removal of all sludges from the basins and temporary on-site stockpiling; construction of the Vault, with five feet of compacted clay, west of the present interim status surface impoundment area; replacement of the sludges in the Vault; excavation and placement of the Biobed wastes in the Vault; covering the Vault with two feet of compacted clay; replacement of the Biobed excavation and other unused excavation areas with inert fill materials; and reconstruction of the stabilization basins with three impoundments lined with five feet of compacted clay (Ref. 1, Part 1, Section 2.6, page 21).

Construction took place during the fall of 1981 and the summer of 1982. Three new impoundments were built, but in a different configuration than the original Hyon basins. Two 500,000 gallon cooling water basins were constructed on the east side of the impoundment area, and a single 1,000,000 gallon stormwater collection basin was constructed on the west side. In 1984, the stormwater basin was sub-divided into two basins. The southern basin retains its function as a stormwater basin (Ref. 1, Part 1, Section 2.6, page 22). These surface impoundments are described in more detail in Subsection D-4.

During the time of construction on the pier, the active incineration process area was also upgraded. The rotary kiln incinerator was refitted with new appurtenances which included a secondary combustion chamber, new refractory, scrubber systems and feed systems. The old tank farm surrounded by an earthen dike was replaced by a new facility with concrete containment. The administration building was refurbished, bulk receiving areas were constructed, and drum processing areas were built. Other changes included the addition of a utilities building, stormwater collection system to collect and convey stormwater to the new stormwater pond, and a roadway network to access all areas (Ref. 1, Part 1, Section 2.6, page 22).

The facility has undergone a number of extensive evaluations to determine whether there have been releases of hazardous waste or constituents from any solid waste management units. A RCRA Facility Assessment (RFA) was conducted by the IEPA in April 1987. During the RFA, IEPA identified nine solid waste management units which had been operated prior to CWMCS' operation of the facility. The RFA was based primarily on a review of historical documents and aerial photographs, with a limited amount of field investigation (Ref. 2, Preliminary Review).

In May 1987, IEPA and the United States Environmental Protection Agency (USEPA) issued a draft Part B permit for public comment. The USEPA portions of the draft permit required CWMCS (then known as SCA Chemical Services, Inc.) to conduct a RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) to investigate whether any releases had occurred, or potentially could occur, from the identified solid waste management units (Ref. 3). Although a hearing was held on the draft permit on July 9, 1987, and comments were filed by CWMCS and interested members of the public, a final Part B permit was never issued.

In fall, 1987, Chemical Waste Management, Inc. (CWMCS corporate parent) and SCA filed a civil action in the United States District Court for the District of Kansas, challenging the USEPA's implementation of its Procedure for Planning and Implementing Off-Site Response Actions (more commonly known as the "Off-site Policy") in a case captioned <u>Chemical Waste Management, Inc. et al v. United States Environmental Protection Agency, et al</u>. U.S.D.C. Kan C.A. No. 87-2411-S. CWMCS and USEPA agreed to a Consent Judgment Regarding Plaintiffs' Request for Preliminary Injunction, to settle portions of this case, and this Consent Judgment was approved and entered on March 16, 1988 (Ref. 4).

Attachment A to the Consent Judgment is entitled, "RCRA Corrective Action Plan", and is based on USEPA Guidance concerning the conduct of RCRA Facility Investigations. It requires CWMCS to conduct a RCRA Facility Investigation with seven tasks. Attachment B to the Consent Judgment is entitled, "Scope of Work for a Corrective Measure Study", and is based on USEPA Guidance concerning the conduct of Corrective Measure Studies (Ref. 4).

As required by the Consent Judgment, CWMCS submitted a RCRA Facility Investigation (RFI) Work Plan to the USEPA, with a copy to IEPA on May 6, 1988 (Ref. 5). The RFI Work Plan was reviewed by USEPA and after a number of modifications were made in response to USEPA comments, the Work Plan was approved on August 10, 1989 (Ref. 6). Much of the information set forth in this section is also contained in the RFI Work Plan and supporting documentation.

L-1 SOLID WASTE MANAGEMENT UNITS

A total of nine solid waste management units (SWMUs) were identified by IEPA during the RFA (Ref. 2, Solid Waste Management Units). These units have been designated as follows:

SWMU 1 - Biochemical Filter Beds (Biobeds)
SWMU 2 - Activated Sludge System
SWMU 3 - Apparent Drum Storage Area
SWMU 4 - High Solids Area
SWMU 5 - Auxiliary (Wastewater) Basin #1
SWMU 6 - Auxiliary (Wastewater) Basin #2
SWMU 7 - Chemical Treatment Area
SWMU 8 - Biochemical Receiving and Pretreatment Tanks
SWMU 9 - Stormwater Collection System (Underground Piping Systems)

While research for the RFI Work Plan, performed by Dames and Moore, did not find any evidence of the Apparent Drum Storage Area (SWMU 3), it did identify a tank farm, which had been operated by Hyon, as an area meriting investigation. The tank farm has been designated as SWMU 10 - Hyon Tank Farm. The location of each of these units, with the exception of the underground piping system, is shown in Figure L.1-1 (Ref. 1, Part 1, Section 2.5, page 19). The SWMU locations are also included on the topographic map, Figure B.2-2B.

Additionally, during implementation of the SCA Chemical Services, Inc. Site Restoration Plan, sludges from the Biobeds, the two Auxiliary (Wastewater) Basins, and the High Solids Area were excavated, tested, stabilized, and redisposed in a Vault constructed inside the boundaries of the Auxiliary (Wastewater) Basin #1. This Vault is discussed in Subsection L-1a(11).

Also present at the facility are four interim status surface impoundments which will be closed in accordance with the Interim Status Standards contained in 35 IAC 725 Subparts G and K. A Surface Impoundment Interim Status Closure Plan was submitted to the IEPA on March 16, 1992 (Ref. 7).

The surface impoundment area originally contained two activated sludge and settling basins and an intermediate stabilization basin. These surface impoundments were reconfigured into four units, and a five foot thick engineered clay liner was installed during the restoration performed by SCA. The surface impoundments were later used by SCA/CWM for storage and treatment of process water and sludges from 1980 to 1988. Post-closure maintenance and monitoring for these surface impoundments is addressed in Subsection I-2 of this RCRA Part B Permit Application.

L-1a Characterization of Solid Waste Management Units

This section presents the best available information pertaining to each of the SWMUs identified in Subsection L-1 above.

L-1a(1) SWMU 1 - Biochemical Filter Beds (Biobeds)

The Biobeds were clay-lined surface impoundments which were located in the northeast corner of the facility, as depicted on Figure L.1-1. Due to the lack of detailed construction or operating drawings, it is not possible to provide a topographic map which contains the contours of the units themselves. There were ten ponds, arranged in two rows, each with five parallel impoundments. The long axis of each of the Biobeds ran in an east/west direction. Each of the Biobeds was approximately 400 feet by 50 feet (Ref. 2, Solid Waste Management Units). The Site Restoration Plan indicated that the clay liners of the Biobeds were less than one foot thick in some places (Ref. 8, Background Information, #7).

The Biobeds were believed to be in use from 1971 to late 1979, and were used to conduct biological treatment on aqueous wastes containing varying concentrations of organic constituents. Approximately 30,000 cubic yards of sludge, filter bed material, and liner were removed from the biobeds during SCA's 1981 site restoration and placed in the Vault during 1981 (Ref. 8, Site

Restoration Plan, #1). Records are not available to allow reconstruction of the total volume of wastes which were treated in these ponds during their active life.

L-1a(2) SWMU 2 - Activated Sludge System

The Activated Sludge System was used in conjunction with the Biobeds in the treatment of various aqueous wastestreams. It consisted of an Activated Sludge Treatment Unit, which was comprised of a square, concrete three-cell tank and a steel Clarifier, and was located in an area east of the interim status surface impoundments and immediately west of the Biobed Area. Its outline has also been depicted on Figure L.1-1 (Ref. 2, Solid Waste Management Units). Engineering drawings are not available for this unit.

The dimensions and capacities of the Activated Sludge Unit and Clarifier are not available. The system was believed to be in operation from 1971 to late 1979, and was used to treat sludges which were removed from the Biobeds. As was the case with the Biobeds, the sludges had varying concentrations of organic constituents. Records which would allow reconstruction of the total volume of wastes which were treated in this unit are not available.

The Activated Sludge Unit and clarifier were removed by CWM in late 1987, after discussions with the IEPA and USEPA, in order to prepare the area for construction of the Phase IV wastewater treatment system. The concrete tank and steel clarifiers were removed, along with underlying soil to the depth at which groundwater was encountered, and this material was transported off site for disposal.

L-1a(3) SWMU 3 - Apparent Drum Storage Area

Dames and Moore was not able to discover information concerning the Drum Storage Area which was identified as a SWMU in IEPA's RCRA Facility Assessment (Ref. 1, Part 1, Section 2.5, page 19). This SWMU would presumably be characterized today as a container storage area, and does not appear to have consisted of any physical structures. It was apparently located in an area east of the interim status surface impoundments and immediately west of the Biobeds, south of the Activated Sludge System, and north of Slip No. 6. Its approximate outlines have been shown on the topographic map, Figure L.1-1.

Due to the lack of physical structures and available documentation associated with this unit, it is not possible to define the dimensions of the area in which drum storage may have occurred. The area in which this activity could have taken place is approximately 200 feet by 200 feet (Ref. 2, Solid Waste Management Units). There are no available records concerning the number of drums which were stored in this area at any given time, nor are records available concerning the wastes that may have been contained in the drums. It is known, however, that Hyon/Envirotherm accepted a broad spectrum of hazardous and special wastes for the aqueous waste treatment and incineration operations during its tenure at the site.

L-1a(4) SWMU 4 - High Solids Area

The High Solids Area was a clay-lined surface impoundment on the western portion of the pier. The clay liner is believed to be less than two feet thick. It was located to the immediate west of the four RCRA interim status surface impoundments which CWMCS will be closing under interim status, and which are the subject of the Post-Closure Plan (Subsection I-2). Its approximate location is depicted in outline form on Figure L.1-1. Detailed engineering drawings are not available for this unit, and it is not possible to do more than define its approximate location.

The approximate dimensions of the High Solids Area were 350 feet by 450 feet, with a maximum capacity of about 30,000 cubic yards and a depth of approximately seven feet (Ref. 1, Part 1, Section 3.2, page 3). It was apparently used by Hyon as a settling pond for sludges and other wastestreams which had particularly high solids contents (Ref. 2, Solid Waste Management Units). Upon SCA's acquisition of the facility in late 1980, its contents and its liner were removed and placed in the Vault, a clay lined, clay covered landfill constructed at the location of SWMU 5 - Auxiliary (Wastewater) Basin #1. Prior to disposal in the Vault, the waste was tested for the characteristics of hazardous wastes, pursuant to the Compliance Agreement with IEPA (Ref. 8).

L-1a(5) SWMU 5 - Auxiliary (Wastewater) Basin #1

Auxiliary (Wastewater) Basin #1, also known as Wastewater Holding Basin #1, was a clay lined surface impoundment used as a settling pond for aqueous wastestreams treated by Hyon/Envirotherm. It was located on the northwestern portion of the facility, immediately west of the high solids area. Its approximate location is depicted on Figure L.1-1, although the lack of detailed construction or operating drawings or records makes it impossible to do more than indicate its outline (Ref. 2, Solid Waste Management Units).

As indicated above, detailed engineering drawings for this unit are not available. Its dimensions were approximately 450 feet by 350 feet, and it appears to have been approximately seven feet deep during its operating life (Ref. 1, Part 1, Section 3.2, page 3). It was believed to have operated during Hyon/Envirotherm's period of operation, which extended from 1971 to 1980. During late 1981 and early 1982, the Vault was constructed in the same location as Auxiliary (Wastewater) Basin #1. The basin contents and its liner were removed, and replaced with a five foot thick clay liner, pursuant the Site Restoration Plan (Ref. 8, Site Restoration Plan, #1). After testing for hazardous waste characteristics, SCA took the material excavated and removed from the Biobed Area, the High Solids Area, and Auxiliary (Wastewater) Basins #1 and #2, solidified it, and placed it in the Vault. The Vault was then covered with two feet of compacted clay (Ref. 1, Part 1, Section 2.6, page 21 and Ref. 8).

Auxiliary (Wastewater) Basin #1 was used as a settling basin for aqueous wastestreams and process water managed by Hyon/Envirotherm. Detailed records concerning the nature and quantity of wastewater in this surface impoundment are not available, although its capacity has been estimated to be approximately 5.8 million gallons (Ref. 1, Part 1, Section 3.2, page 3).

Due to the lack of records, it is impossible to reconstruct the total volume of wastewaters which were treated or stored during the operating life of this unit.

L-1a(6) SWMU 6 - Auxiliary (Wastewater) Basin #2

Auxiliary (Wastewater) Basin #2, also known as Wastewater Holding Basin #2, was another clay lined surface impoundment used as a settling pond for aqueous wastes and process water during the Hyon/Envirotherm period of operation. It was located on the western end of the pier, in the far northwestern portion of the facility. Its approximate location is shown on Figure L.1-1, although the lack of detailed construction and operating records makes it impossible to do more than indicate its outline.

Detailed engineering drawings are unavailable for this surface impoundment. Based on available drawings and records, it appears to have had approximate dimensions of 450 feet by 350 feet, with an approximate depth of seven feet (Ref. 1, Part 1, Section 3.2, page 3). This surface impoundment was in operation during Hyon/Envirotherm's term at the facility, and was excavated and removed, with its contents placed in the Vault. It was apparently used to treat aqueous wastestreams and process water from Hyon/Envirotherm's operations, but its contents are otherwise unknown. Although its capacity has been estimated to be approximately 5.8 million gallons, the lack of available records makes it impossible to reconstruct the total volume of wastewaters which may have been stored or treated in this surface impoundment during its operating life (Ref. 1, Part 1, Section 3.2, page 3).

L-1a(7) SWMU 7 - Chemical Treatment Area

The Chemical Treatment Area was used in the receiving and pretreatment of certain types of organic and inorganic special and hazardous wastes. It was located in the area which is presently occupied by portions of the incinerator's air pollution control system and Phase III of the incinerator's wastewater pretreatment system. Its approximate location is depicted on Figure L.1-1. Engineering drawings for this area are not available.

The approximate dimensions of this area were 175 feet by 100 feet, and it was present during the Hyon/Envirotherm period of operation from 1971 to 1980, although its use was believed to be limited to 1971 through 1973 (Ref. 2, Solid Waste Management Units). Upon SCA's takeover of the site, it was taken out of service, and paved with asphalt. Detailed records do not exist concerning the types of wastes which may have been managed in this area, but it was in all likelihood used to manage a fairly broad range of solid and hazardous wastes. Due to the lack of records, it is impossible to definitively state either the capacity of this area, or the total volume of wastes which went through this process.

L-1a(8) SWMU 8 - Biochemical Receiving and Pretreatment Tanks

Little is known about this area, other than that it was used by Hyon/Envirotherm for receiving and pre-treating biochemical wastes which were subsequently treated in the Biobeds and apparently consisted of neutral, acid, and alkaline receiving basins which appear to have been divisions of a single, open top, three-cell tank, as well as four above-ground tanks, two for mixing and pretreatment, and two for leachate surge and storage. It was located on the northern side of what is presently the process area, slightly east of Slip No. 6. Due to the unavailability of engineering drawings, it is impossible to do more than to show the outline of its former location, which appears on Figure L.1-1.

The general dimensions of this area were approximately 70 feet by 80 feet. It was believed to be in operation during the Hyon/Envirotherm period, from 1971 to 1980. Upon SCA's takeover of the facility, it was taken out of service. It received a broad spectrum of organic wastestreams, although records are not available to indicate the precise constituents or quantities of such wastes. It is not possible to reconstruct the total volume of material which was managed during its operating life.

L-1a(9) SWMU 9 - Stormwater Collection System (Underground Piping Systems)

In the 1987 RCRA Facility Assessment, IEPA identified the underground pipeline which carried stormwater from the interim status surface impoundments to the incinerator as a SWMU which required investigation. This stormwater collection system is constructed of clay tiles and includes a number of catch basins and sumps in the process area. The Stormwater Collection System was used to carry stormwater from portions of the process area to the impoundments, both by Hyon/Envirotherm and subsequently by SCA/CWM. The pipeline system took an L-shaped path from the process area, west to the vicinity of the surface impoundments, then north on the eastern perimeter of the surface impoundment area.

Detailed design drawings are not available for the stormwater collection system and exact information concerning its location is not available. The approximate location of this system is shown on Figure L.1-1. The stormwater piping system is still in use.

Prior to November 1988, the stormwater piping system was used to convey stormwater collected outside of secondary containment areas in the incinerator process area to the surface impoundments. Subsequent to November 1988, stormwater was conveyed to the Phase IV stormwater tanks.

As part of the RCRA Facility Investigation, Dames & Moore also identified the underground, reinforced fiberglass, process water piping system as a SWMU to be investigated. Prior to November 1988, the process water piping system was used to convey process water, which contains concentrations of chlorides and other inorganic constituents, from the incinerator process area to the surface impoundments, along the same pathway as the stormwater piping system. Due to numerous releases from the underground process water piping system, as identified in Subsection L-2, this piping system was taken out of service and replaced by an overhead pipe rack. In November 1988, upon cessation of operation of the surface impoundments, the process water was conveyed to the Phase IV process water tanks.

Detailed design drawings are not available for the underground process water piping system and exact information concerning its location is not available. The approximate location of this system is shown in Figure L.1-1.

Due to the nature of these piping systems and their relatively long period of use, it would be impossible to develop a total quantity or volume of stormwater or process water which may have passed through these systems. The volume of water managed in the stormwater piping system was largely dependent upon the quantity of precipitation. The volume of water managed in the process water piping system was dependent upon incinerator operations.

OTHER SOLID WASTE MANAGEMENT UNITS

L-1a(10) SWMU 10 - Hyon Tank Farm

During the course of developing the RFI Work Plan, Dames and Moore identified a tenth area for which some investigation might be required. On the southwest corner of what is now the process area, near the southern property boundary, Hyon/Envirotherm operated a Tank Farm. This area was located immediately west of the present-day Tank Farm, and was composed of a number of tanks with a total volume of approximately 260,000 gallons (Ref. 1, Part 1, Section 2.5, page 14). An earthen dike surrounded these tanks. The Tank Farm's approximate location is shown on Figure L.1-1.

As is the case with all of Hyon/Envirotherm's operations, engineering drawings for the individual tanks are unavailable. The general dimensions of the Tank Farm were approximately 150 feet by 200 feet. This Tank Farm was believed to be in service during Hyon/Envirotherm's period of operations, from 1971 to 1980. The tanks were used to store liquid wastes prior to incineration and probably included solvents and other organic materials with high Btu content. The lack of records makes it impossible to reconstruct either the precise nature or the total quantities of wastes stored in the Tank Farm during its operating life.

L-1a(11) Vault

The Vault is a small landfill cell which was developed pursuant to a Compliance Agreement between the Chicago Regional Port District and the IEPA. Upon taking over the facility, SCA excavated and removed remaining wastes and liners from the Biobed Area, the High Solids Area, and Auxiliary (Wastewater) Basins #1 and #2. The area in the vicinity of Auxiliary (Wastewater) Basin #1 was reconstructed with an engineered liner having a minimum thickness of five feet. The removed materials were tested for hazardous waste characteristics, solidified, and placed in the Vault. A two foot compacted clay cap was constructed on top of the Vault. Five groundwater monitoring wells were also placed around the vault. The Vault is located within SWMU 5 (see Figure L.1-1).

There are no available engineering drawings for the Vault. The Vault is approximately 250 feet long and 225 feet wide. The elevation of the cap is approximately 19 feet above lake level. The Vault was built in late 1981 and early 1982, and was used exclusively for disposing of the liners and residues from the Hyon/Envirotherm ponds together with solidification media and other site-generated debris. No off-site wastes were placed in the Vault.

L-1a(12) RCRA Interim Status Surface Impoundments

As described previously, Hyon operated two activated sludge and settling basins and an intermediate stabilization basin which were redeveloped by SCA into the process and storm water surface impoundments. This system was operated by SCA and CWMCS from 1982 to 1988. Sections E and I in this Permit Application both contain the Post-Closure Groundwater Monitoring Program for these impoundments. The Post-Closure Maintenance Plan to provide for the long-term care of the units is included in Subsection I-2.

L-1b No Solid Waste Management Units

In light of the history of the facility, CWMCS does not intend to conclude that no solid waste management units existed on the facility, or to provide evidence to support such a conclusion.

L-2 RELEASES

Due to the nature of historical operations at the facility and the lack of detailed operating and engineering records, it is impossible to develop a definitive list of all possible releases from each of the above-described SWMUs. In developing its RFI Work Plan, CWMCS considered the likely sources of releases, and, together with Dames and Moore, developed an investigatory protocol consisting of soil borings, piezometers, surface water and sediment sampling locations and groundwater monitoring wells. This investigation was designed to detect areas of potential contamination throughout the entire facility, paying particular attention to the historical operation of SWMUs. Sampling locations were also selected to provide for complete coverage of the facility, to the extent feasible.

Limited information is available concerning releases from the Hyon/Envirotherm SWMUs either during or after their periods of operation, due to the unavailability of records concerning Hyon/Envirotherm's operations. However, it is known that Hyon experienced flooding in the Biobed Area in 1973, prompting the City of Chicago Department of Environmental Conservation to suspend its permit for three months. A citation was also issued by the Metropolitan Sanitary District of Greater Chicago as a result of the flooding of the ponds and the potential threat to Lake Calumet. The Biobeds were apparently also the source of odors which prompted the City of Chicago to revoke Hyon's permits in 1976. During the period from 1972 to 1976, Hyon was the subject of approximately sixty citations issued by the City, for odors, smoke, or operating without a permit.

Hyon was also fined by the United States Coast Guard for an oil spill which emanated from an arriving truck. Apparently, an unspecified quantity of oil flowed into Lake Calumet.

During the early part of its operations, SCA/CWM also detected breaks in the Process Water Underground Pipeline System on four occasions. In February 1984, an unknown quantity of scrubber water was released from a pipeline break. The affected area was diked with soil to contain the spill. The pipeline was repaired, and the affected soils were sent to a hazardous waste landfill. On October 10, 1984, a spill of between 18,000 and 20,000 gallons of scrubber water resulted from a pipeline break. The pipeline was repaired, and soils were removed to a hazardous waste landfill. On January 25, 1985, 250 gallons of scrubber water were released, the result of a pipeline break. The area was diked with soil to provide containment, and the soils were removed to a hazardous waste landfill. On April 5, 1985, a broken pipeline was discovered, but the pipeline system was shutdown before any visible release was observed. The pipeline was again repaired (Ref. 1, Part 1, Table 2-3).

On May 11, 1985, between 3,000 and 11,000 gallons of scrubber water were released as a result of a pump failure in the pH adjustment tank and in the process area. Affected soil in the area of the spill was excavated and transported to a hazardous waste landfill for disposal (Ref. 1, Part 1, Table 2-3). There have also been a number of other spills of reportable quantities of hazardous wastes in the years between 1985 and the present (Ref. 1, Part 1, Table 2-2). However, as part of its enhancements to the facility, CWMCS has paved significant portions of the process areas. Each of the post-1985 reportable quantity spills occurred in the process area, and was collected.

In late 1987, a portion of the underground pipeline system was removed near the northeast surface impoundment in preparation for the construction of the Phase IV wastewater pretreatment structures. This pipe section was removed, and concrete was placed in the open ends of the pipe that remained in place.

L-2a Characterize Releases

While the amount of available information concerning releases which may have occurred during the Hyon/Envirotherm period of facility operation is relatively small, CWM has developed a great deal of information concerning the present site conditions at the facility, through the RFI and other studies.

The RFI is being conducted in two phases. The first phase, the sampling for which was conducted in September and October 1989, was intended to provide for a comprehensive evaluation of the soils and groundwater across the entire facility as well as the surface water and lake sediments around the facility. Sampling points and groundwater elevations are depicted on Figures L.2-1A, L.2-1B, L.2-2A, and L.2-2B. The second phase is intended to provide more detailed information concerning areas identified in the first phase as potentially requiring corrective action. The RFI Phase I and Phase II efforts, to date, are summarized below.

L-2a(1) RCRA Facility Investigation - Phase I

As part of Phase I of the RFI, fifty-three soil borings (some redrilled due to auger refusal) were completed at the CWMCS facility, between September 19, 1989 and October 31, 1989 (Ref. 9, Section 3.0, page 1). Nine of the borings were advanced to ten feet below the fill/clay interface, while the remainder were terminated at the top of the natural clay (Ref. 9, Section 3.0, page 1 and Figure 2-1). Sampling locations are shown on Figures L.2-1A, L.2-1B, L.2-2A, and L.2-2B. Samples were obtained from all borings for physical classification purposes (Ref. 9, Section 3.0, page 2). Two inch diameter, PVC, groundwater monitoring wells were installed in twenty-one of these borings, and 1-1/4 inch diameter, PVC piezometers were installed in five of the borings (Ref. 9, Section 3.0, page 4). Groundwater samples were also obtained from the twenty RFI wells, as well as the four groundwater assessment wells which surrounded the surface impoundments (Ref. 9, App. C.4).

Chemical analyses were conducted on soil samples obtained from each of the sampling locations identified in Figures L.2-2A and L.2-2B. Two samples of the fill material were obtained from each borehole. The first sample was obtained at the approximate base of the former SWMU. The second sample was obtained from approximately five feet below the first sample at the base of the fill. Two additional samples were obtained from each of the nine clay sampling locations. These were obtained from depths of two and ten feet below the fill/clay interface (Ref. 9, Section 3.0, pages 2 and 3).

In addition, thirty sediment and five surface water samples were obtained from Lake Calumet for chemical analyses, between October 10-18, 1989, at the locations designated on Figures L.2-2A and L.2-2B (Ref. 9, Section 3.0, page 3).

L-2a(1)(a) Phase I Hydrogeologic Determinations

Groundwater elevations were obtained from all RFI monitoring wells and piezometers on November 20, 1989 (Ref. 9, Section 4.0, page 1). Water levels obtained are indicative of perched water in the fill at locations in the center of the pier and underlying the active area. Groundwater in the perched aquifer flows towards the lake from these areas (Ref. 9, Section 4.0, page 3). The Water Table map for November 20, 1989 is presented in Figures L.2-2A and L.2-2B (Ref. 9, Figure 4-1).

L-2a(1)(b) Phase I Contaminant Assessment

Assessment of the contaminants identified during Phase I of the RFI was designed to provide information necessary to determine areas requiring further investigation during Phase II of the RFI. The following is a summary of the analytical results obtained during Phase I of the RFI. Actual analytical data are presented in tabular form in Appendix L-1. (Ref. 9, Section 5.0)

<u>Metals</u>

The concentrations of the total metals reported in the upper and lower fill samples varied widely, as expected, due to the make-up of the fill and the heavy industrialization of the area (Ref. 9, Section 5.0, page 8). The fill primarily consists of construction debris, smelting slag, wood, soil, ash from coal-fired furnaces, and dredge spoils from nearby lakes and rivers (Ref. 9, Section 5.0, page 9).

The concentrations of the total metals reported in the clay samples (upper and lower) were consistent site-wide. With the exception of B-346 located in the active area, clay samples from both levels were in the 200-300 mg/kg range for total metals (Ref. 9, Section 5.0, page 9).

The total metals concentrations reported in the sediment samples from Lake Calumet appear to follow a pattern for both Slip No. 6 (south of the pier) and Slip No. 8 (north of the pier). The concentrations decrease from about 750 mg/kg on the east end of the slips, near the active area of the facility, to 240 mg/kg at the west end of the slips near Lake Calumet. The concentrations then begin to increase again, farther out into the lake. It appears that the sediment surrounding the pier contains metals in concentrations consistent with those found in sediments of nearby surface waters (Wolf Lake, Calumet Harbor, Little Calumet River, etc.) (Ref. 9, Section 5.0, page 9). Surface water samples were reported to contain no metals of concern (Ref. 9, Section 5.0, page 8).

The concentrations of the dissolved metals reported in the groundwater varied from a total of 1.0 mg/l in several locations to 324.8 mg/l in G-332 located in the biobed area. While the metals concentrations appear slightly elevated near the active area of the site, 15 of the 24 samples with reported concentrations of metals contained concentrations less than 10 mg/l (Ref. 9, Section 5.0, page 9).

Volatiles

Elevated concentrations (greater than 1.0 mg/kg) of total volatiles in the upper and lower fill appear to center around the Biobed Area, with the highest concentrations reported in the samples from the boring for P-322 (Ref. 9, Section 5.0, page 9). Methylene chloride was reported as a lab contaminant in most samples and is not actually present at the levels reported in the fill materials. Volatiles were also reported in two of the upper fill sample locations near the Vault (Ref. 9, Section 5.0, page 10).

The groundwater from wells located in the Biobed Area was also reported with significant levels of volatile organics. Samples taken from G-123S, just west of the Biobeds, reported increasing levels of total volatiles based on multiple sampling events during 1989 (Ref. 9, Section 5.0, page 10).

The only clay samples that were reported with total volatiles (greater than 1.0 mg/kg) were taken from the Biobed Area. Methylene chloride was reported in most clay samples and in the laboratory blanks, thereby indicating likely laboratory contamination (Ref. 9, Section 5.0, page 10).

All sediment samples were reported with less than 1 mg/kg total volatiles, although some constituents were reported in low ug/kg amounts. Methylene chloride was the only volatile reported in the surface water samples and was likely due to laboratory contamination (Ref. 9, Section 5.0, page 11).

Semi-Volatiles

Semi-volatile constituents were reported in most upper and lower fill samples, but seemed to concentrate in three areas: the Biobed Area, the Vault Area, and Auxiliary (Wastewater) Basin #2. Higher concentrations were reported in the lower fill than in the upper fill. The semi-volatiles reported west of Auxiliary (Wastewater) Basin #2 were primarily base/neutrals. Fill samples taken near the vault were reported with primarily acid compounds. The fill samples from the Biobed Area were reported with base/neutral and acid compounds (Ref. 9, Section 5.0, page 11).

The semi-volatiles reported in the groundwater were concentrated in the active area, near the previous Hyon Tank Farm and along the east edge of Slip No. 6. The semi-volatile constituents detected in the groundwater were mainly the phenolic (acid) compounds (Ref. 9, Section 5.0, page 11).

The upper and lower clay samples in the biobed area had reported levels of semi-volatiles; both acid and base/neutral compounds. The upper and lower clay samples from boring P-319, east of the vault, were reported with generally low levels of benzyl alcohol (Ref. 9, Section 5.0, page 11).

The sediment samples were reported with fairly consistent levels of total semi-volatiles (2 mg/kg to 15 mg/kg). The constituents from the base/neutral fraction are consistent with previous data obtained from Lake Calumet (Ref. 9, Section 5.0, pages 11 & 12). No semi-volatiles were reported in the surface water samples (Ref. 9, Section 5.0, page 12).

L-2a(2) RCRA Facility Investigation - Phase II

Based on the results from Phase I of the RFI and an assessment of the contaminants which had been detected, the primary focus for Phase II is on the following four areas of concern: the Vault, the Hyon Tank Farm, the Biobed Area, and Auxiliary (Wastewater) Basin #2 (Ref. 9, Section 6.0). The RFI Phase II Work Plan Addendum was presented to USEPA on April 13, 1990, together with the findings from Phase I. Final approval of the Phase II Work Plan was obtained from USEPA on August 15, 1991. Phase II field activities commenced on September 23, 1991.

As part of Phase II of the RFI, upper and lower fill samples were obtained from seventeen locations. These sample locations were selected to obtain additional information from the four areas of concern identified in Phase I. Ten of the samples were collected in the Biobed Area, four in the area of the Hyon Tank Farm, two in the Auxiliary (Wastewater) Basin #2, and one in the High Solids Area. Both upper and lower fill samples were submitted for chemical analyses. Groundwater samples were also obtained at each of these sample locations using a Hydro-punch™ sampler (Ref. 10, Section 2.0, pages 1 and 4 and Table 2-1). The Hydro-punch™ sampler was also used to collect leachate samples from the Vault Area in order to characterize the constituents present in the Vault, (Ref. 10, Section 2.0, page 4) as Phase I sample volumes were inadequate to completely characterize the leachate (Ref. 9, Section 6, page 2). Fourteen surface water and nine sediment samples were obtained from Lake Calumet. These samples were obtained to assist in identification of any potential release from the facility, primarily from the Biobed Area and Auxiliary (Wastewater) Basin #2 (Ref. 10, Section 2.0, pages 4 and 5). All sample locations are shown on Figure L.2-3 (Ref. 10, Section 2.0, Figure 2-1).

The clay confining layer which underlies the fill was sampled at eight locations using the double-cased grout plug method to prevent groundwater infiltration from the perched water bearing zone into the boring (Ref. 10, Section 2.0, page 5 and Ref. 11). Samples were obtained from three depths (5, 15 and 40 feet below the fill/clay interface) at each location, excluding C-2 (Ref. 10, Section 2.0, page 5). Seven of these locations are identified on Figure L.2-3.

The eighth location, C-2R, is located approximately 25 feet northwest of the C-2 location and was added to the clay sampling program due to excessive levels of methane encountered in boring C-2, at a depth of approximately 40 feet below the fill/clay interface. At the C-2 location, samples were obtained at the 5 and 15 foot depths only (Ref. 12, page 14).

Temporary piezometers were installed at four of the clay sampling locations (C-2, C-2R, C-3, C-6) at each depth sampled using 1-1/4 inch diameter PVC. At each location, the piezometer screen was installed at the depth corresponding to the clay sampling depth. Consequently, a nest of three piezometers at each boring was installed. (A nest of two piezometers was installed at C-2.) These nested piezometers were installed to obtain hydraulic properties of the clay materials (Ref. 10, Section 5.0, pages 1 and 2).

Twenty-three surface soils samples were obtained from unpaved areas of the facility. Eight of these samples were obtained from the Biobed Area, five from Auxiliary (Wastewater) Basin #2, three from the High Solids Area and four from the Vault. Three additional samples were obtained from the undeveloped pier north of the facility to establish background concentrations in the surface soils (Ref. 10, Section 2.0, page 6).

Seven borings were advanced to bedrock during Phase II to obtain stratigraphic information on the soil materials underlying the facility. Four of these borings were a continuation of clay sampling locations and three borings were for stratigraphic information only (Ref. 10, Section 2.0, page 7 and Ref. 11).

Groundwater samples were obtained from the 20 Phase I RFI wells, the four assessment wells and the 17 fill/Hydro-punch™ locations previously identified (Ref. 10, Section 2.0, pages 1 and 6). Two of the Hydro-punch™ samples (FG-11, FG-17) yielded minimal amounts of water and the full analyses could not be completed. Hydro-punch™ sampler FG-16 yielded no water after one week and was considered dry (Ref. 13).

<u>Hydrogeologic Determinations</u>

Groundwater elevations were obtained from all RFI monitoring wells and piezometers during the months of December, 1991 and January and February, 1992, to prepare potentiometric surface maps for Phase II of the RFI.

Bail recovery and/or slug tests were also performed on all of the RFI monitoring wells and piezometers to determine a value for hydraulic conductivity at these locations (Ref. 13).

<u>Contaminant Assessment</u>

Analytical data from Phase II of the RFI have not been qualified as of the time of this submittal. Therefore, no assessment of the results can be made except as follows.

Analytical data for the clay sampling locations have been received and reviewed, and were submitted to USEPA on February 17, 1992. The analytical results for clay samples were expedited to provide verification of the Phase I clay results in a timely fashion so that additional clay investigation could take place, as necessary, during Phase II. The analytical results indicated that the original sampling method used in Phase I caused apparent contamination of the clay samples (Ref. 12, page 19). The Phase II results reported only trace levels of contaminants. The contaminants reported are restricted to the clay samples collected from the Biobed Area (Ref. 12, page 12).

<u>Methane Investigation</u> (Ref. 12)

During drilling of the boreholes at clay sampling location C-2 (40 feet), methane was encountered in excess of the lower explosive limit at pressures approximately 10 psi. Because of this methane, the C-2 (40 foot) boring was abandoned. C-2R, a replacement for C-2, was therefore completed approximately 25 feet northwest of C-2. Temporary piezometers were installed at each of the C-2R depths (5, 15 and 40 foot) and at the 5 and 15 foot depths at C-2 (Ref. 12, page 14).

Upon development of the piezometers at C-2, C-2R, C-6 and C-3, methane concentrations were once again measured and recorded. Methane was noted in seven of the eleven piezometers at up to 75% and 9.5 psi (Ref. 12, pages 15 and 18).

The USEPA requested that CWMCS determine the source of the methane present in these piezometers. CWMCS has obtained samples of the headspace gas from the piezometers and a number of monitoring wells in the Biobed Area of the facility, and has submitted these samples for isotope analyses. These analyses will confirm the source of the methane as either landfill gas (from the nearby Paxton II Landfill), the site waste management units, or as naturally occurring (Ref. 12, page 16).

Environmental and Risk Assessment

In accordance with the March 16, 1988 Consent Judgment outlining tasks required for the RFI, CWMCS has prepared and submitted to the USEPA, an "Outline for a Risk Assessment for the CWM Chemical Services, Inc. - Chicago Incinerator". This Outline was submitted on November 22, 1991, after negotiations with the Agency and in response to the Agency's October 1, 1991 letter to CWM.

Schedule for Completion

Phase II of the RFI is scheduled for completion with the submittal of the Phase II RFI Report to the USEPA on August 7, 1992. The Environmental and Risk Assessment schedule will be finalized upon the Agency's approval of the document.

Upon completion of the Agency's review of the RFI Report, a CMS may be determined to be necessary. If a CMS is required, procedures and schedules as specified in the March 16, 1988 Consent Judgment will be followed.

L-2b No Releases

Based on the information provided in section L-2 above, CWMCS does not intend to conclude that no releases have occurred from the SWMUs, or to provide evidence to support such a conclusion.

SECTION L REFERENCES

1. SCA Chemical Services, Inc., Chicago Incinerator Facility, RCRA Facility Investigation Work Plan, Volumes I and II; April, 1988.

2. Illinois Environmental Protection Agency, SCA Chem Services, RCRA General - RFA Memorandum, April 13, 1987, From Richard Lange to Larry Eastep.

3. Illinois Environmental Protection Agency and USEPA, Draft RCRA Permit, May 1987, for the SCA Chemical Services, Inc. Chicago Incinerator.

4. Chemical Waste Management, Inc. et al., v. United States Environmental Protection Agency, et al. U.S.D.C. Kan. C.A. No. 87-2411-S. Consent Judgment, March 16, 1988.

5. CWM, Inc. correspondence (E. Kenney) to USEPA (R. Herseman), May 6, 1988.

6. USEPA correspondence to CWM, Inc., August 10, 1989.

7. Surface Impoundment Interim Status Closure Plan, CWM Chemical Services, Inc., March, 1992.

8. State of Illinois, Environmental Protection Agency, Compliance Agreement, In the Matter of Site Restoration Plan for the Chicago Regional Port District Property at 11700 South Stony Island Avenue, Chicago, Illinois. March, 1981.

9. Chicago Incinerator Facility, RFI Phase II Work Plan, Addendum, Volume I, Appendix C; RFI Phase I Report; April 1990.

10. RCRA Facility Investigation Work Plan, Part VIII, Phase II Work Plan Addendum for CWM Chemical Services, Inc., Chicago Incinerator Facility, Chicago, Illinois; September 4, 1991.

11. Chemical Waste Management, Chicago Incinerator, RCRA Facility Investigation, Phase II; November, 1991 Progress Report.

12. Interim Report, Clay Investigation, RFI Phase II of the Chicago Incinerator, Chicago, Illinois; February 14, 1992.

13. Chemical Waste Management, Chicago Incinerator, RCRA Facility Investigation, Phase II; November, 1991 Progress Report.

BORING LOG G-120 SHEET 1 OF 1

SURFACE ELEV. 12.4 Feet PROJECT SCA Incinerator, Chicago, Illinois

DATUM Chicago City Datum DATE STARTED 10/11 (P) & 23 (S) DATE COMPLETED 10/11 (P) & 23

DRILL RIG Mobile B-61 DRILLING METHOD Hollow Stem Auger (3½" ID, 7" OD)

ELEV. DEPTH		DESCRIPTION	UNIFIED CLASS	BLOWS/FOOT	SAMPLES NUMBER	TYPE	HAMMER BLOWS PER 6 IN.	REC./ATT. (in.)	REMARKS
2, 4		Firm to stiff, brown, silty clay FILL mixed with misc. debris (wood, brick, steel, concrete) (CL)							Boring G-120 P initially augered to 13 ft, refusal on concrete, drilled new hole ± 10 ft south of original location Boring G-120 S is located ± 3 ft north of G-120 P, no sampling was performed. See text for well completion procedures. See Figures 9 and 10 for well completion details.
6				16	1	SS	6-10-refusal	9/12	
8	▼			7	2	SS	1-2-5	16/18	
10				24	3	SS	7-6-18	14/18	
12, 14	▼	Stiff, black, silty clay FILL mixed with misc. debris (CL)		11	4	SS	2-3-8	2/18	
16		Soft, black, silty clay FILL, wet (CL)		4	5	SS	1-1-3	2/18	
18		Stiff, gray, silty CLAY, trace of sand and fine gravel (CL-CH)		10	6	SS	2-4-6	12/18	
20		Boring G-120 P completed at 19 ft 6 in. BGS on 10/11/85. Augers advanced to 19 ft 3 in. BGS to install PVC well casing. Boring G-120 S completed at 18 ft 7 in. BGS on 10/23/85. Ground water encountered at ± 15 ft BGS, but stabilized to ± 8 ft BGS upon completion of each well.							

Job No 853-2054

Scale 1" = 4'

Golder Associates

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APPENDIX E-14

BORING LOGS AND
GROUNDWATER MONITORING WELL CONSTRUCTION SUMMARIES

BORING LOG G-121 SHEET 1 OF 1

SURFACE ELEV. 12.4 Feet PROJECT SCA Incinerator, Chicago, Illinois

DATUM Chicago City Datum DATE STARTED 10/14 (P) & 24 (S) DATE COMPLETED 10/15 (P) & 24 (S)

DRILL RIG Mobile B-61 DRILLING METHOD Hollow Stem Auger (3½" ID, 7" OD)

ELEV. DEPTH		DESCRIPTION	UNIFIED CLASS.	BLOWS/FOOT	SAMPLES NUMBER	TYPE	HAMMER BLOWS PER 6 IN.	REC./ATT. (in.)	REMARKS
2, 4, 6		Medium dense, black, misc. FILL (asphalt, brick, concrete, gravel, etc.)		19	1	SS	9-9-10	8/18	Both borings (P and S) were augered without difficulty. G-120 S was drilled ± 3 ft east of G-120 P. No sampling was performed for G-120 S. See text for well completion procedures. See Figures 11 and 12 for well completion details.
8, 10	▼	Soft, black, oily sludge and misc. FILL, wet		24	2	SS	2-3-21	8/18	
				3	3	SS	1-1-2	14/18	
12, 14		Soft, brown and gray, silty clay FILL (CL-CH)		5	4	SS	2-3-2	14/18	
16		Soft, black, oily sludge FILL		10	5	SS	3-6-4	14/18	
18		Firm, gray, silty CLAY, trace of sand and fine gravel (CL-CH)							
20		Boring G-121 P completed at 17 ft BGS on 10/15/85. Boring G-121 S completed at 18 ft 6 in. BGS on 10/24/85. Ground water encountered at ± 7 ft BGS in both borings.							

Job No. 853-2054
Scale 1" = 4'

Golder Associates

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BORING LOG G-122 (P and S)

SHEET 1 OF 1

SURFACE ELEV. 12.6 Feet

PROJECT SCA Incinerator, Chicago, Illinois

DATUM Chicago City Datum

DATE STARTED 10/14 (P) & 24 (S)

DATE COMPLETED 10/14 (P) & 24

DRILL RIG Mobile B-61

DRILLING METHOD Hollow Stem Auger (3½" ID, 7" OD)

ELEV. / DEPTH	DESCRIPTION	UNIFIED CLASS	BLOWS/FOOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: HAMMER BLOWS PER 6 IN.	SAMPLES: REC./ATT. (in.)	REMARKS
2	Loose to medium dense, black, sandy FILL mixed with misc. debris (wood, brick, concrete, etc.)							Both borings (P and S) were augered without refusal. G-122 S was drilled + 3 ft east of G-122 P. No sampling was performed for G-122 S. See tex for well completi procedures. See Figures 13 and 1 for well completi details. No samp at 9.5 ft, augere through concrete.
4								
6			12	1	SS	12-6-6	8/18	
8	Warm water encountered at 8 ft BGS		6	2	SS	2-2-4	9/18	
10								
12	Very soft to soft, black, silty clay FILL, wet (CL-CH)		1	3	SS	0-1-0	10/18	
14			3	4	SS	1-1-2	14/18	
16	Stiff, gray, silty CLAY							
18			14	5	SS	2-6-8	18/18	
20	Boring G-122 P completed at 18 ft 6 in. BGS on 10/14/85. Augers advanced to 17 ft 9 in. BGS to install PVC well casing. Boring G-120 S completed at 18 ft 6 in. on 10/24/85. Ground water encountered at ± 8 ft BGS in both borings.							

Job No. 853-2054

Scale 1" = 4'

Golder Associates

Drawn DLO

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BORING LOG G-123 S

SHEET 1 OF 1

SURFACE ELEV. 12.4 Feet PROJECT SCA Incinerator, Chicago, Illinois

DATUM Chicago City Datum DATE STARTED 10/16/85 DATE COMPLETED 10/17/85

DRILL RIG Mobile B-61 DRILLING METHOD Hollow Stem Auger (3½" ID, 7" OD)

ELEV. DEPTH		DESCRIPTION	UNIFIED CLASS.	BLOWS/FOOT	SAMPLES NUMBER	TYPE	HAMMER BLOWS PER 6 IN.	REC./ATT. (in.)	REMARKS
2		Firm to very stiff, black, misc. FILL (brick, concrete, sand, clay, etc.)							Initial boring was augered to refusal at 10 ft depth. Augered new hole 10 ft west of original location without any difficulty to a depth of 18 ft 3 in. See text for well completion procedures. See Figure 15 for well completion details
4	▼								
6				26	1	SS	7-11-15	8/18	
8	▼	Wet at 8 ft depth		7	2	SS	5-3-4	8/18	
10		Firm, gray, gravelly clay FILL		6	3	SS	2-2-4	10/18	
12									
14		Stiff, gray and black, silty clay FILL, wet		14	4	SS	6-6-6	18/18	
16		Grading soft at 16 ft		5	5	SS	2-3-2	18/18	
18		Soft, gray, silty CLAY, trace sand and fine gravel (CL-CH)							
20		Boring completed at 18 ft 3 in. BGS on 10/17/85. Ground water encountered at + 8 ft BGS, but stabilized at + 4 ft BGS upon completion of well.							

Job No. 853-2054

Scale 1" = 4'

Golder Associates

Drawn DLD

Checked [illegible]

BORING LOG G-124 S

SHEET 1 OF 1

SURFACE ELEV. 11.9 Feet PROJECT SCA Incinerator, Chicago, Illinois

DATUM Chicago City Datum DATE STARTED 10/22/85 DATE COMPLETED 10/22/85

DRILL RIG Mobile B-61 DRILLING METHOD Hollow Stem Auger (3¼" ID, 7" OD)

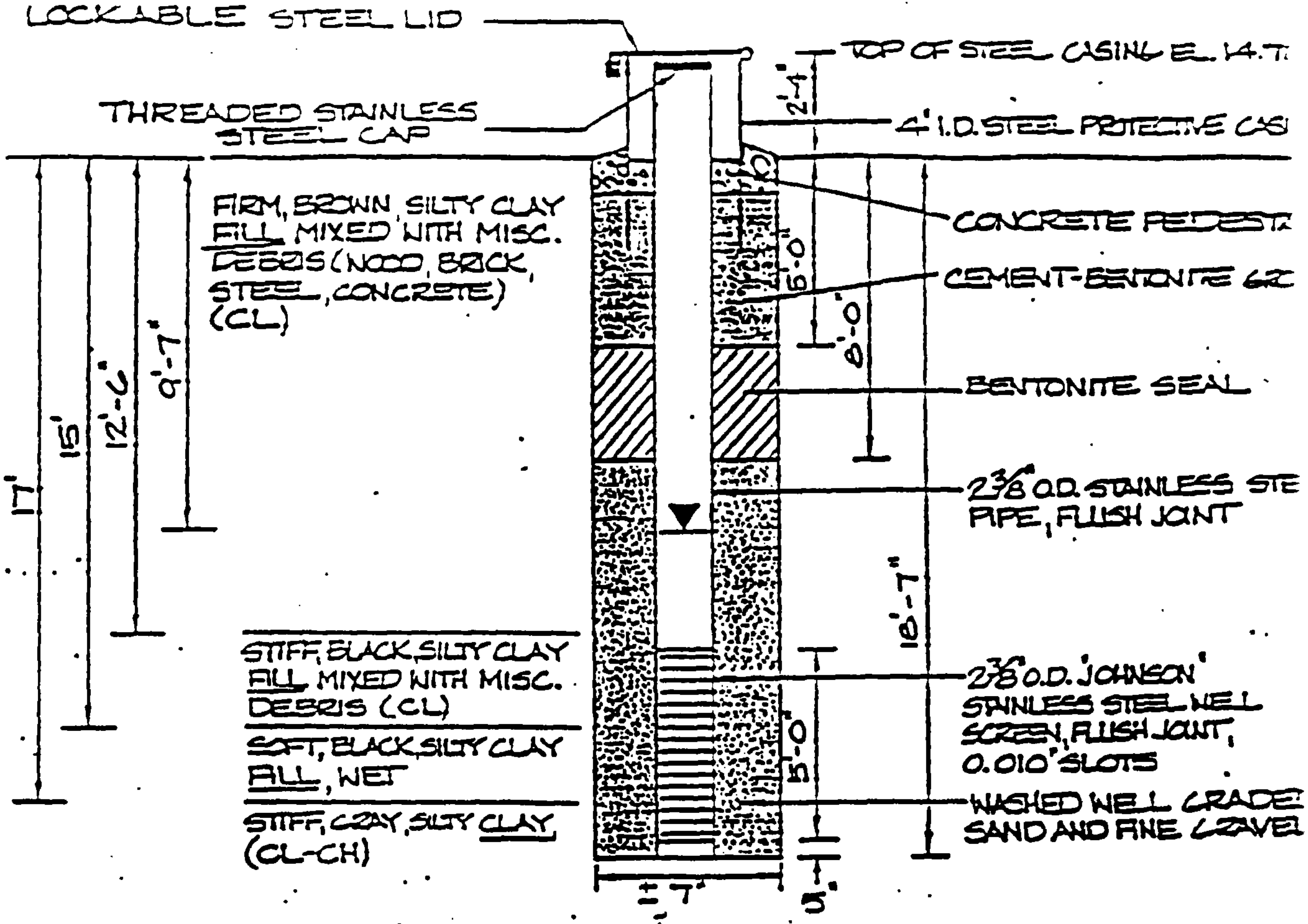
ELEV. DEPTH	DESCRIPTION	UNIFIED CLASS.	BLOWS/FOOT	SAMPLES NUMBER	TYPE	HAMMER BLOWS PER 6 IN.	REC./ATT. (in.)	REMARKS
2	Firm to stiff, black, sand, silty, clay and gravel FILL							Boring was auger to full depth wi out any difficul See text for wel completion procedures. See Figure 16 for well completion details.
4								
6			6	1	SS	4-2-4	8/18	
8	Warm water at 7.5 ft depth		9	2	SS	7-4-5	10/18	
10								
12	Soft to firm, brown and gray, silty clay FILL (CL-CH), moist		4	3	SS	2-2-2	18/18	
14			5	4	SS	1-2-3	18/18	
16	Grading gravelly at base of fill (wet)		51	5	SS	6-38-13	6/18	
18	Stiff, gray, silty CLAY, trace sand and fine gravel (CL-CH)		15	6	SS	3-6-9	18/18	
20	Boring completed at 19 ft BGS on 10/22/85. Augers advanced to only 18 ft 8 in. BGS to install well casing. Ground water encountered at ± 7.5 ft BGS, but stabilized at ± 6 ft BGS upon completion of well.							

Job No. 853-2054 Scale 1" = 4'

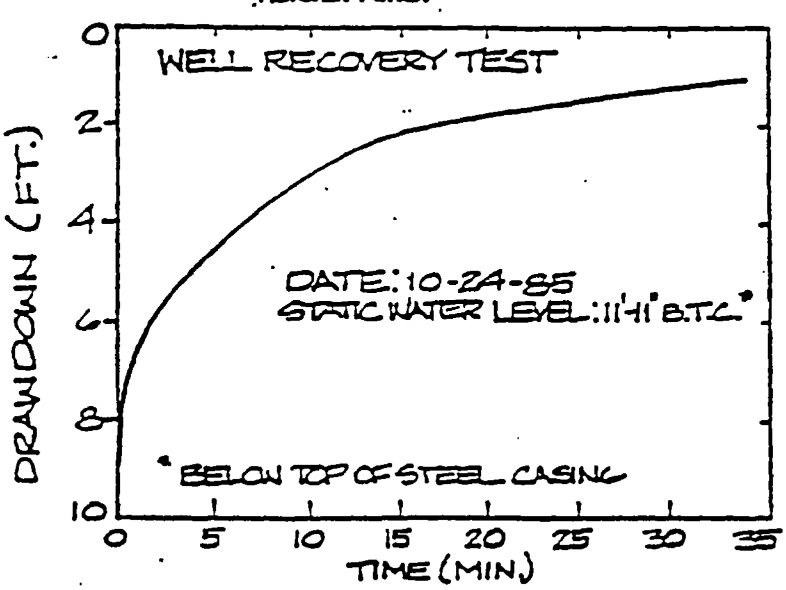
Golder Associates

Drawn DLO
Checked [illegible]

COMPLETION DETAIL
WELL G-120S



SCALE: VERT. 1" = 5'
HORIZ. NTS.

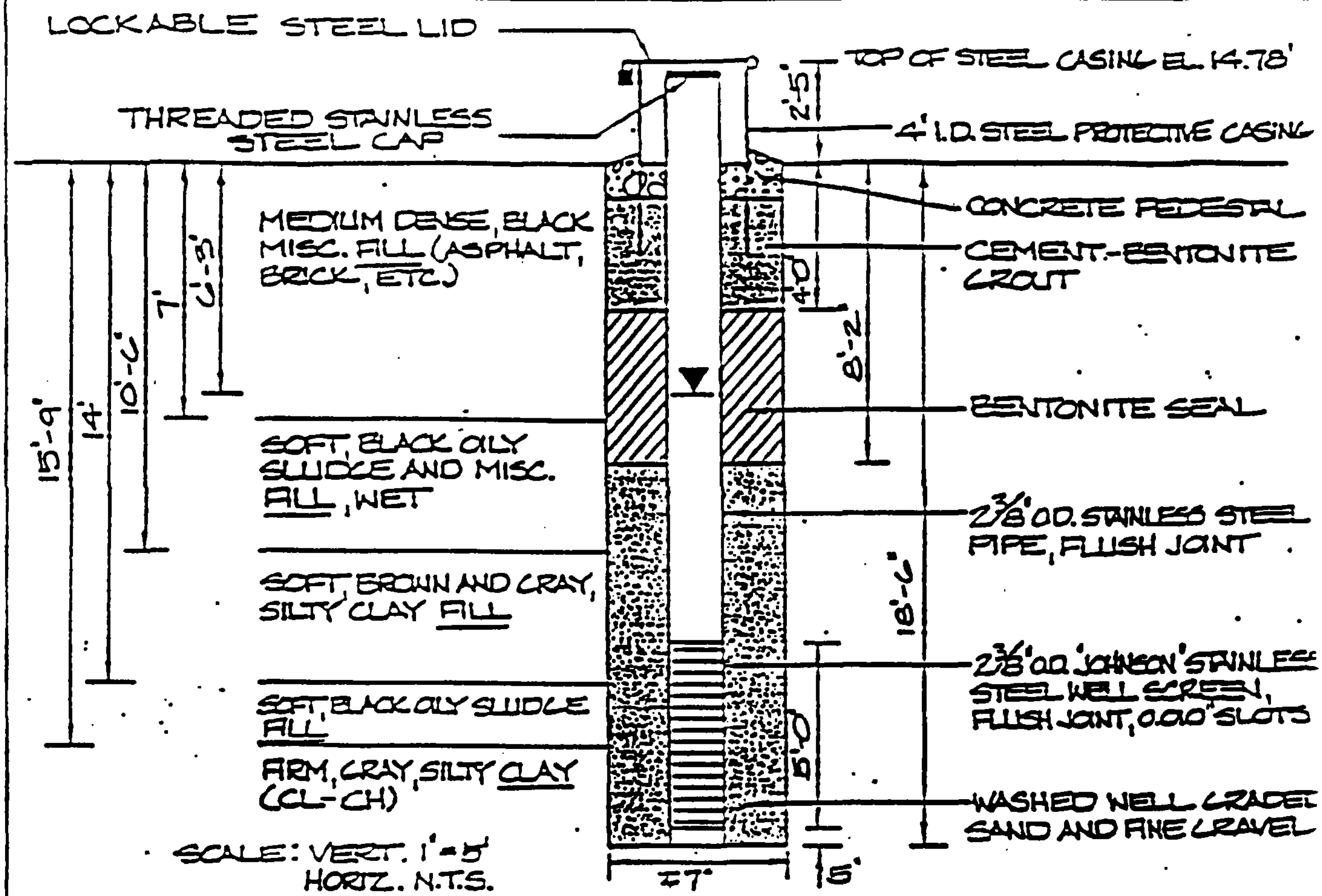


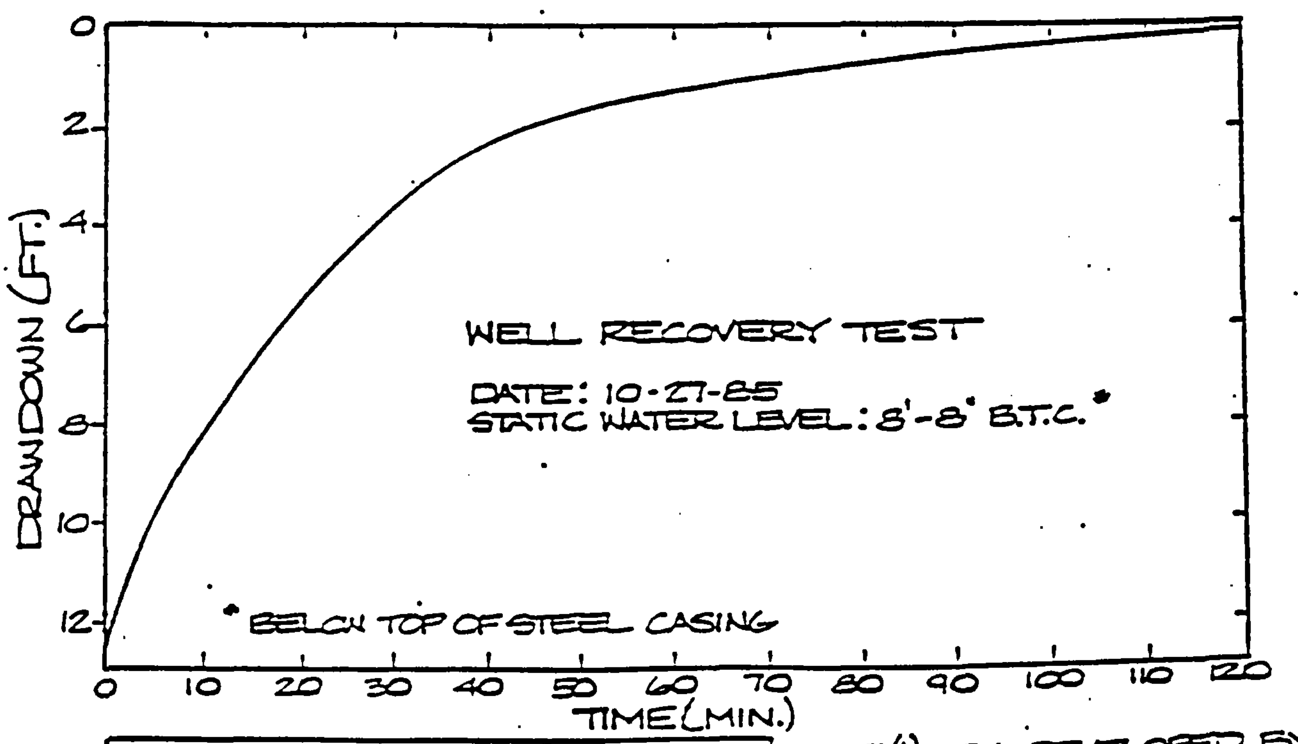
NOTES: WELL DEVELOPED BY BAILING WITH A STAINLESS STEEL BAILER ON OCT. 24, 25, 26 AND 27. TOTAL VOLUME OF WATER REMOVED = 18 GALLONS

GROUND WATER QUALITY DATA

DATE: 10-25-85
TEMPERATURE: 16°C
CONDUCTIVITY: 1250 μmhos/cm

COMPLETION DETAIL
WELL G-121S



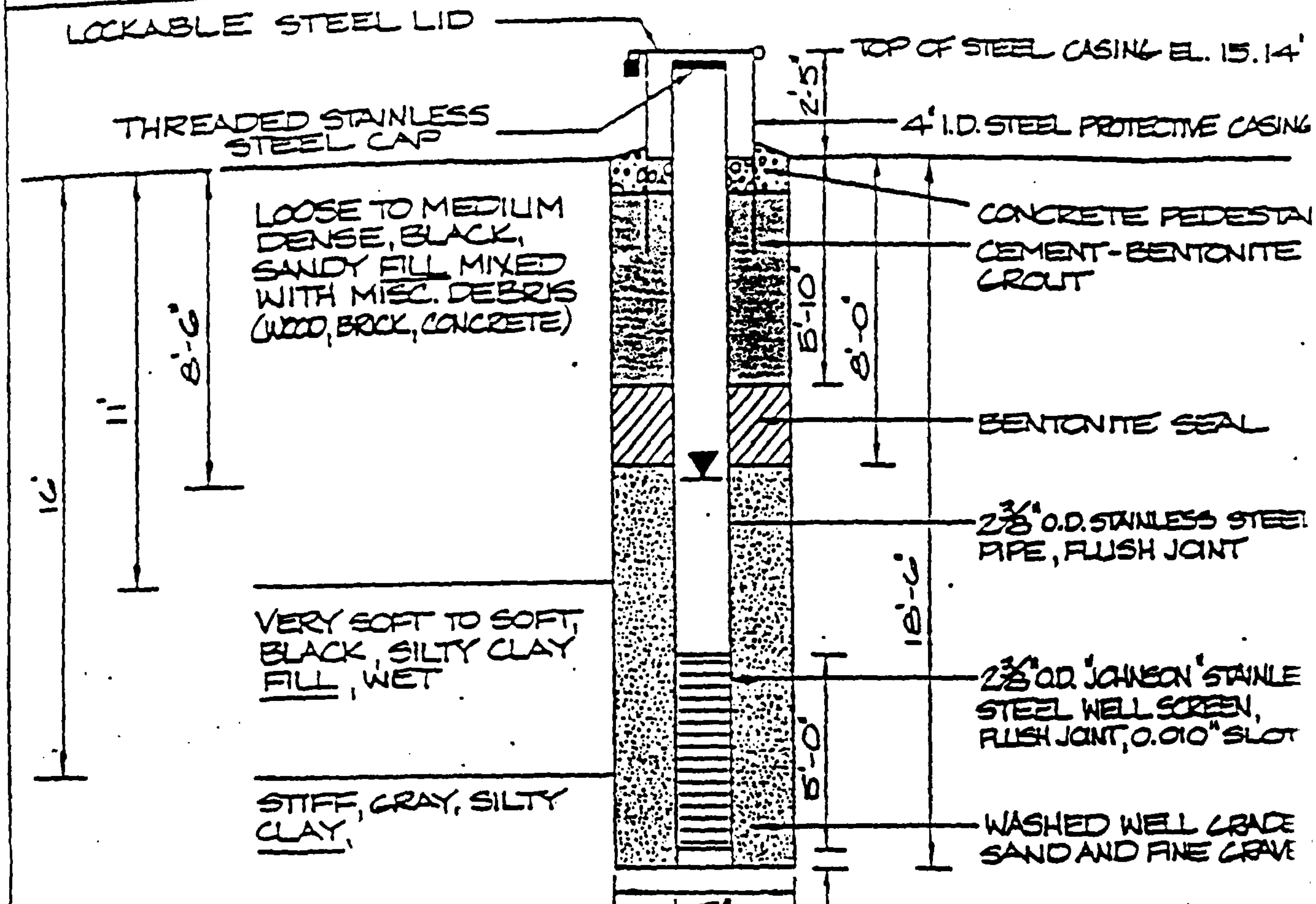


GROUND WATER QUALITY

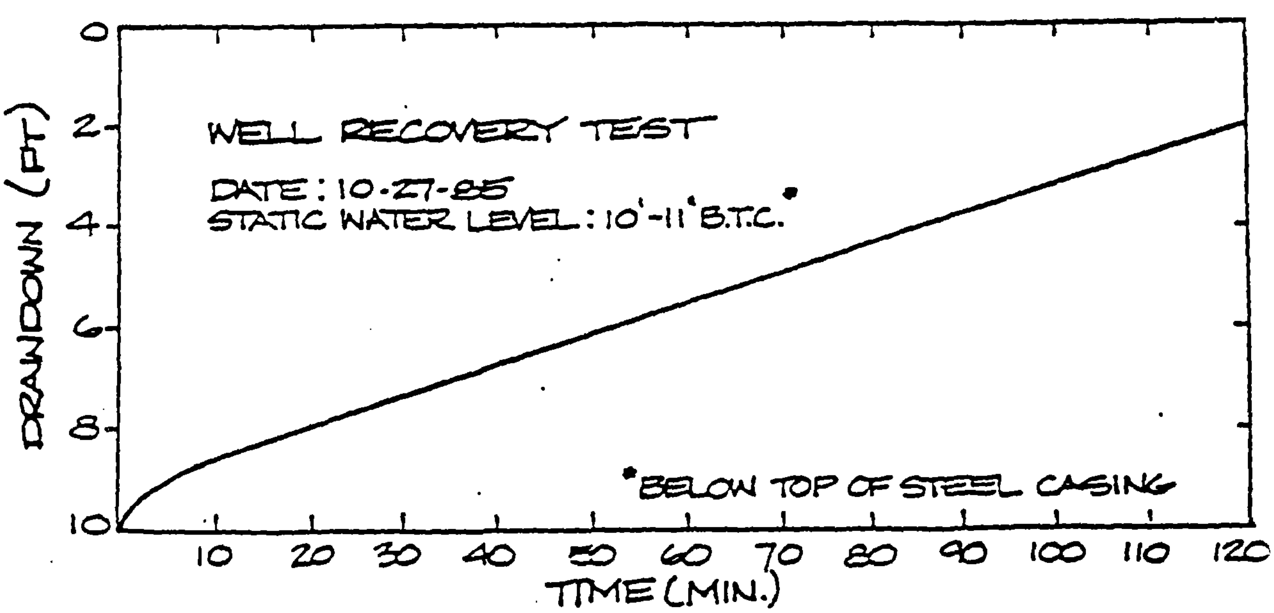
DATE: 10-25-85
TEMPERATURE: 16°C
CONDUCTIVITY: 15,500 µmhos/cm

NOTE: (1) WELL DEVELOPED BY BAILING ON OCTOBER 25, 26 AND 27, TOTAL VOLUME REMOVED = 18 GALLONS

COMPLETION DETAIL
WELL G-122S



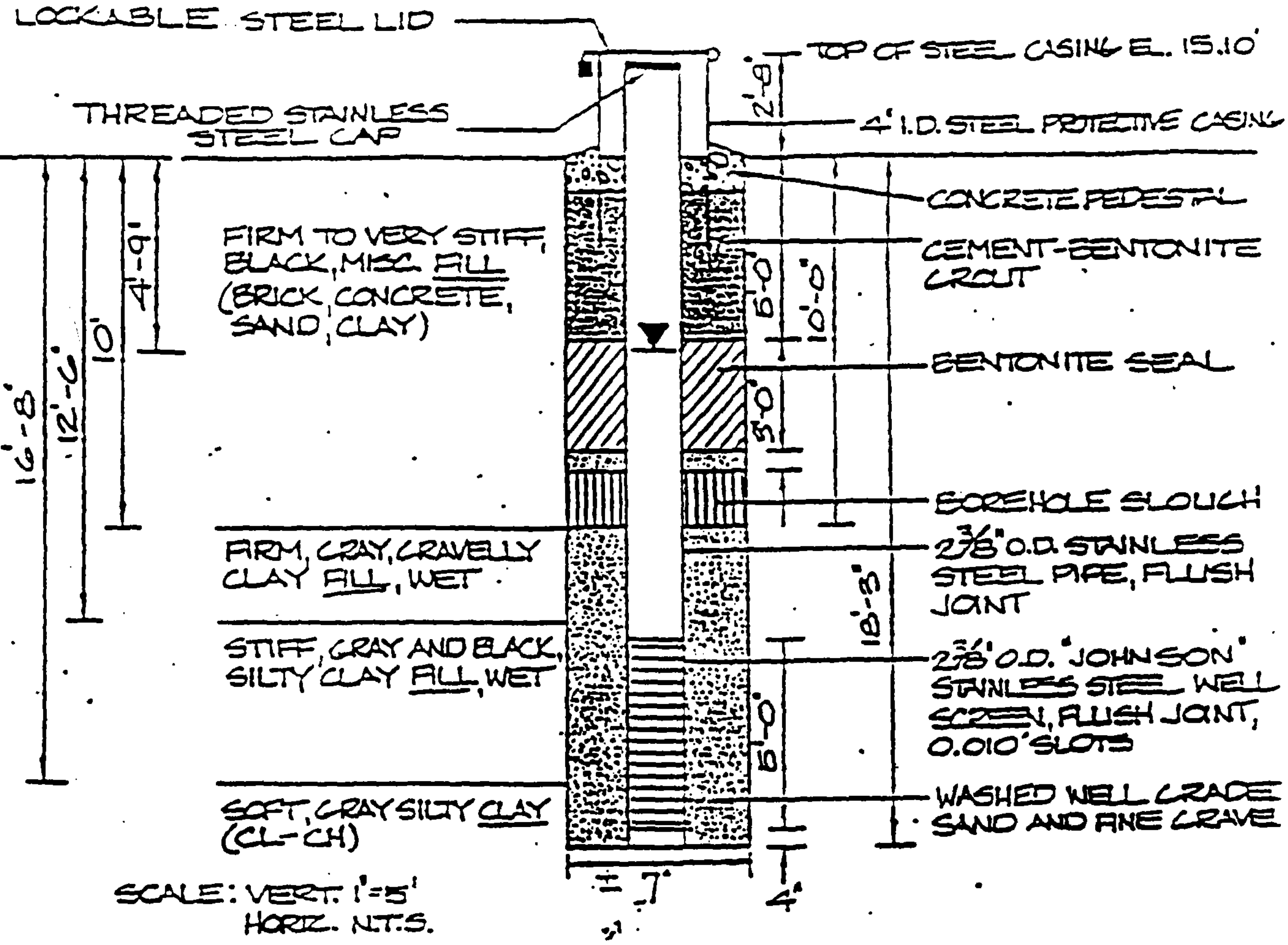
SCALE: VERT. 1"-5'
HORIZ. N.T.S.

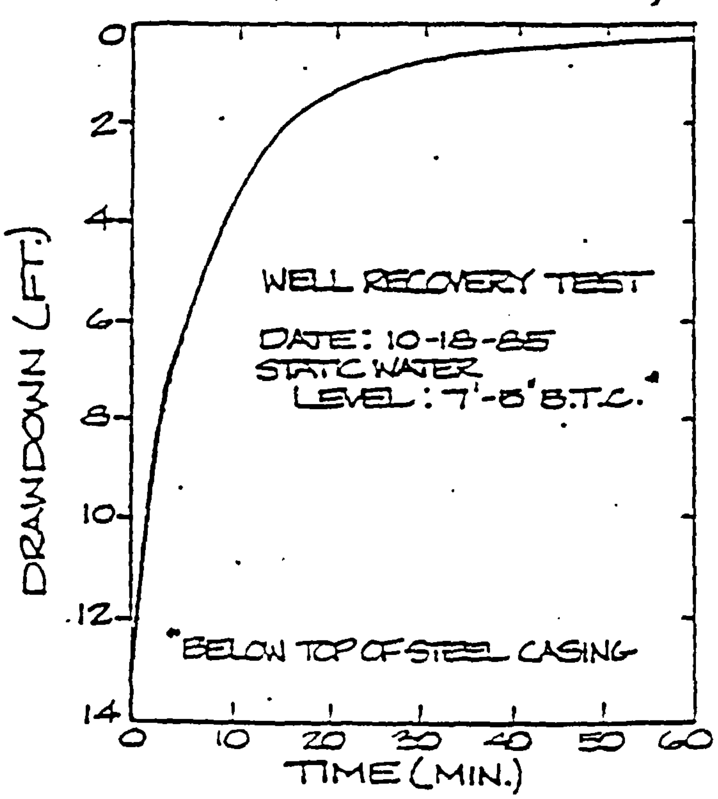


GROUND WATER QUALITY
DATE: 10-25-85
TEMPERATURE: 24°C
CONDUCTIVITY: 11,000 μmhos/cm

NOTES: (1) WELL DEVELOPED BY BAILING WITH A STAINLESS STEEL BAILER ON OCT. 25, 26 AND 27. TOTAL VOLUME OF WATER REMOVED = 18 GALLONS.

COMPLETION DETAIL
WELL G-123S

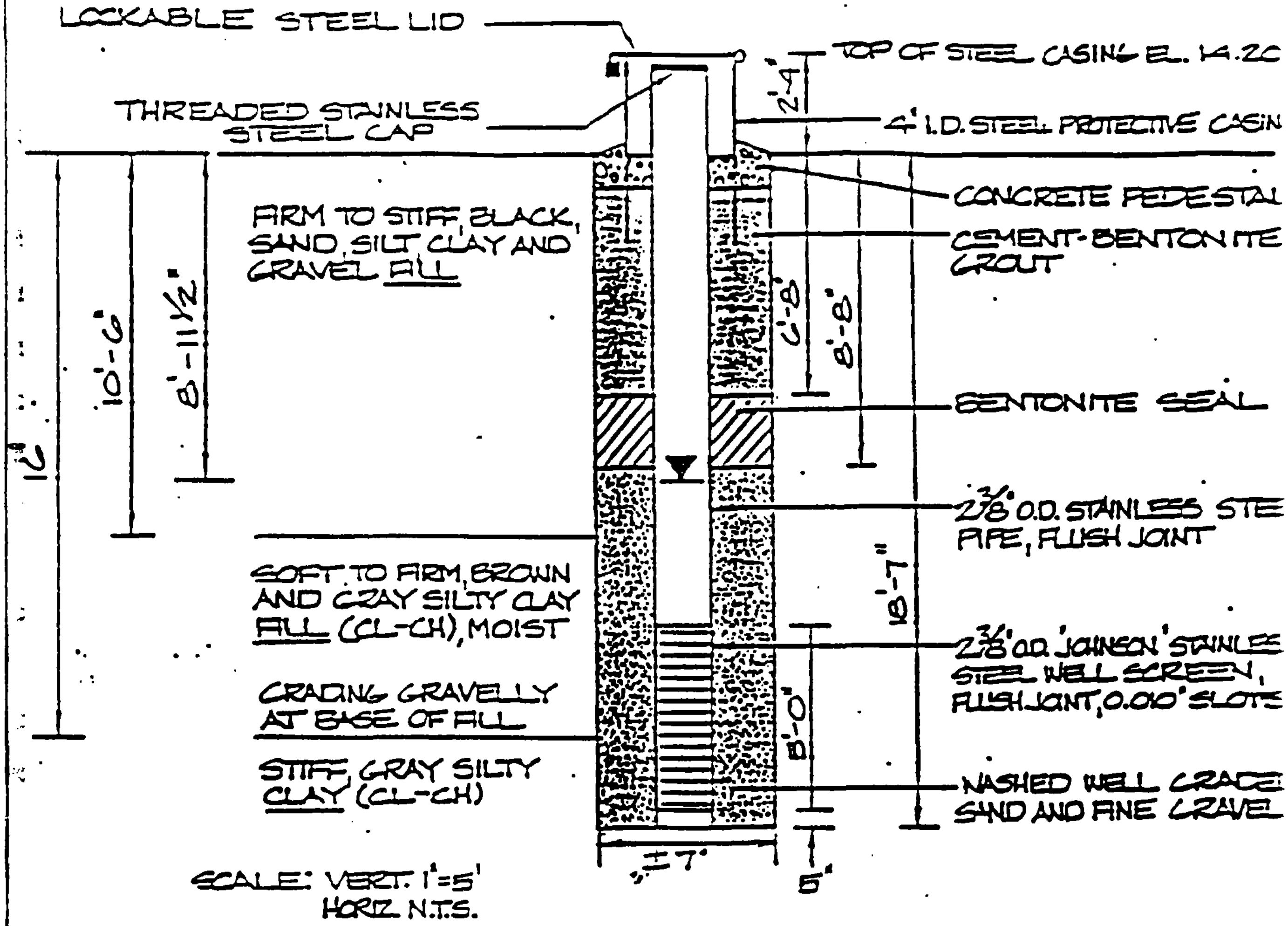


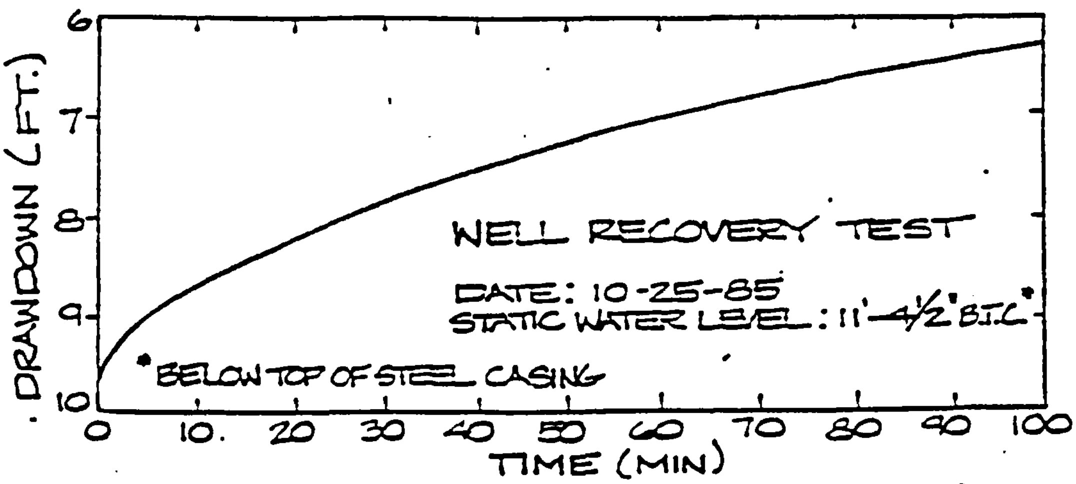


GROUND WATER QUALITY
DATE: 10-22-85
TEMPERATURE: 19°C
CONDUCTIVITY: 5,100 μmhos/cm

NOTE: WELL DEVELOPED BY BAILING ON OCTOBER 18, 21 AND 22. TOTAL VOLUME REMOVED = 107 GALLONS

COMPLETION DETAIL
WELL G-124S





GROUND WATER QUALITY

DATE: 10-25-85
TEMPERATURE: 24°C
CONDUCTIVITY: 1,700 μmhos/cm

NOTE: (1) WELL DEVELOPED BY BAILING ON OCTOBER 2 24, 25, 26 AND 27. TOTAL VOLUME REMOVED = 27 GALLONS.

SOIL BOREHOLE LOG

SITE NAME AND LOCATION: CWM Incinerator, Chicago, IL	DRILLING METHOD: 8" OD Hollow Stem Auger	BORING NO. B-G307	
		SHEET 1 OF 1	
	SAMPLING METHOD: 2" Split-spoon (SS); 3" Split-spoon (SS)	DRILLING	
		START	FINISH
	WATER LEVEL / TIME / DATE / CASING DEPTH	TIME 1010	TIME 1315
DATUM Chicago City ELEVATION 8.4'		DATE 9/20/89	DATE 9/20/89
DRILL RIG Mobile B-57 ATV	SURFACE CONDITIONS Gravel/weeds		
ANGLE vertical BEARING			
SAMPLE HAMMER TORQUE FT.-LBS			

DEPTH IN FEET (ELEVATION)	BLOWS/ 6 IN ON SAMPLER (RECOVERY)	SYMBOL	SAMPLE NUMBER AND DESCRIPTION OF MATERIAL	SAMPLER AND BIT	CASING TYPE	BLOWS/FOOT ON CASING	WATER CONTENT %	LIQUID LIMIT %	PLASTIC LIMIT %	SPECIFIC GRAVITY	OTHER TESTS
0–2	4,3, 2,4 (54%)		gray to black silty GRAVEL (fill); some sand and clay; moist; hard (GM)	2" SS	No casing used						
2–4	8,8, 7,6 (67%)		Light gray sandy GRAVEL (fill); dry; poorly graded; some brick and organic matter (GP)	2" SS							
4–6	2,1, 1,0 (33%)		Gray to black silty SAND (fill); wet at 6.5 feet; loose to very loose; some organic matter (SM)	2" SS							
6–8	1,1, 1,8 (62%)			2" SS							
8–10	7,4, 4,3 (79%)			3" SS							
10–12	2,1, 5,7 (83%)			2" SS							
12–14	4,8, 12,13 (100%)			3" SS							
14			Light gray CLAY; moist; plastic (CL)								
			Bottom of boring at 14 feet.								

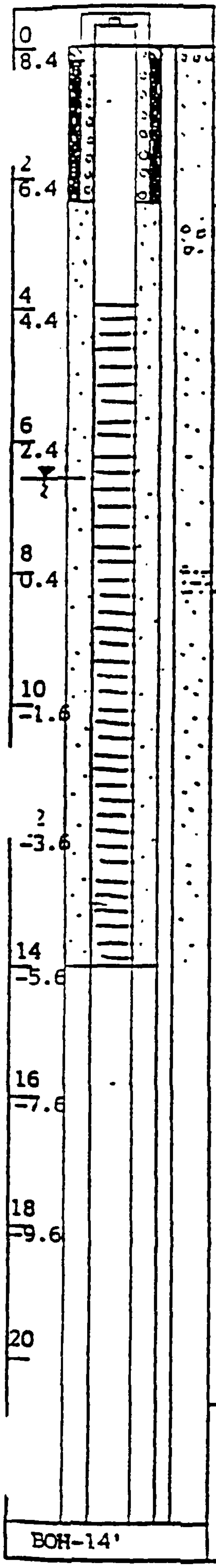
DRILLING CONTR. ATEC

LOGGED BY T. Harlu

Well No. G-307

Boring No. X-Ref:

MONITOR WELL CONSTRUCTION SUMMARY



Survey Coords: ____________

Elevation Ground Level 8.4'

Top of Casing 10.76'

Drilling Summary:

Total Depth 14'0"

Borehole Diameter 8" auger (OD)→ 9"

Casing Stick-up Height: 2.36'

Driller D. Cass - Atec

Rig Mobile B-57

Bit(s) Hollow Stem Auger

Drilling Fluid None

Protective Casing Steel

Well Design & Specifications

Basis: Geologic Log X Geophysical Log ___

Casing String (s): C = Casing S = Screen.

Depth	String(s)	Elevation
+2.4' - 4.0'	C1	10.76' - 4.4'
4.0' - 14.0'	S1	4.4' - -5.6'

Casing: C1 2" dia PVC

C2

Screen: S1 2" dia PVC (4.0' -14.0' depth) 10 slot

S2

Filter Pack: (2-14' depth) Sand retained on #20, uniformly graded between 10 and 20

Grout Seal: Grout at surface Portland type 2 cement

Bentonite Seal: (0-2' depth) Aquagel Gold seal bentonite

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling	9/20	1015	9/20	1315
Geophys. Logging:				
Casing:				
Filter Placement:				
Cementing:				
Development:	11/9	0925	11/9	1500

Well Development:

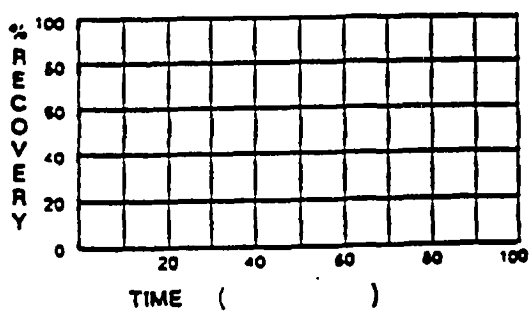
1 Well Volume = 32.7 gals (Calculated using 9" dia and height of wter column) ~ 41 gals pumped 5.75 hrs developed using nitrogen lift

Stabilization Test Data:

Time	pH	Spec. Cond.	Temp (C)
5.75	7.82	1460	7.5

Recovery Data:

Q= S_o=



Comments: Dry bentonite pellets inside procover, capped with sand
Well installation overseen by D. Trainor (first well installed in project)
*Grout only at surface due to shallow depth of water table

SITE NAME CWM

SUPERVISED BY Tina Harlu

Clean Harbors Services, Inc.
11800 S. Stony Island Ave.
Chicago, IL 60617

EPA ID No. ILD000608471

RCRA Part B License
Request for Permit
April 19, 2003

Volume 3
Text/Tables/Figures
Sections F through O
AA, BB and CC

Section F
Procedures to Prevent Hazards

F-1 **Security**

F-1a **Security Procedures and Equipment** 703.183(d), 724.114

Clean Harbors Services, Inc. (CHSI) does not claim a waiver from the facility security requirements as provided under35 IAC 724.114(a). Specific security procedures and equipment designed to prevent the unknowing entry, and minimize the possibility of unauthorized entry, of person or livestock on the active portion of the facility are described in Sections F-1a (1) through F-1B (2) below.

F-1a (1) **24-Hour Surveillance System** 703.183(d), 724.114(b) (1)

The facility typically operates on a 24 hours per day, seven days per week basis. During normal operation hours, the facility is staffed by a minimum of two employees. All CHSI employees are trained, as part of their routine work responsibilities, to be on the alert for the presence of non-authorized personnel or intruders, or for other breeches of the security arrangements described in this Plan. During holiday periods and weekends, or other times when there are less than two employees present on site, an outside guard service may be contracted to maintain watch at the facility site until the normal plant staff returns.

F-1a (2) **Barrier and Means to Control Entry** 724.114(b)

In accordance with 35 IAC 724.114(b), CHSI utilizes a barrier (i.e., fence) and means to control entry (i.e., controlled access through a locked gate) as the primary means of security at the facility.

F-1a (2)(a) **Barrier** 724.114(b) (2) (A)

An 8-foot high chain-link fence that is equipped with lockable gates surrounds the active portion of the facility. The location of the fence line and the access gates are shown on CHCI DWG. No. 4204.

F-1a (2) (b) Means to Control Entry 724.114(b)(2) (B)

There are six means of entry to the main processing areas of the facility: through the Office Building and through five gates in the perimeter fence. The Southeast-receiving gate (for inbound/outbound highway waste hauling vehicles) is electronically operated and controlled by personnel in the adjacent Transportation/Receiving building (Building 4). A separate gate north of Building 4 provides access for railcar traffic. All facility personnel shall enter through main gate just south of Building 5. All visitors shall enter the facility though the Office Building (Building 1). All gates are kept locked at night and at all times when the facility is closed. In addition, there are two additional access gates at the northeast and southeast corners of the property; these gates shall normally remain closed and locked at all times.

Vehicle and foot traffic into and out of the facility is restricted through the main gate. The gate is unlocked during normal daylight operating hours. All visitors to the facility must sign in at the office receptionist and be accompanied by facility personnel in their movements about the facility. All non-CHSI vehicle drivers are required to stay with their vehicle at all times.

All personnel entering the CHSI facility who are not assigned to the facility on a regular basis (site employee) including vendors, customers, third party truck drivers and delivery personnel, contractors, and any Clean Harbors employees from other locations, including drivers, field services, corporate, or other CHI facilities receive training on the following topics: facility layout; safety procedures and locations of safety equipment; alarm systems; required personal protective equipment (PPE); evacuation routes from the facility and primary and secondary rally points; and location of permissible eating and smoking locations. This training shall be provided to each new visitor and shall be effective for a period of one (1) year. Each visitor shall be required sign in a visitor training certification that he/she received this training. Training documentation shall be retained by the facility until it has expired. Each visitor shall sign in/out at their port of entry and then will be provided with a (numbered) visitor's badge and required safety equipment. Each visitor shall be the responsibility of the site employee he/she is visiting. A site employee shall accompany the visitor throughout his/her visit. The site employee shall be responsible for assuring the safety of the visitor and, upon the completion of the visit; the visitor shall surrender his/her badge to the receptionist and sign out.

F-1a (3) **Warning Signs** 724.114 (c)

A. <u>"Danger – Unauthorized Personnel Keep Out"</u>

Warning signs are posted along the fence line, at the east gate, and on the process building. The signs are also posted along the water line of slips 4, 6, and 8, which form the northern, southern, and western borders of the property. All warning sign are legible from a distance of 25 feet and visible from all angles of approach. All of the signs are written in English and bear the legend "Danger-Unauthorized Personnel Keep Out " (new signs) or "Danger – Authorized Personnel Only" (existing signs). Because there are no languages other than English in predominate use within the general area of the facility, no signs written in a foreign language are required. The location of all warning signs at the facility are noted on CHCI DWG. No. 4220.

B. <u>Other Signs</u>

Other warring signs (e.g., "No Smoking", "Equipment Starts Automatically", emergency directions, pedestrian crossing, vehicular traffic routes) shall be posted throughout the facility to ensure compliance with RCRA hazardous waste and OSHA requirements.

F-1b Waiver 724.114(a)
F-1b (1) Injury to Intruder 724.114(a) (1)
F-1b Violation Caused By Intruder 724.114 (a)(2)

CHSI does not claim a waiver from any of the security and equipment requirements of 35 IAC 724.114. Therefore, the demonstration requirements of F-1b (1) and F-1b (1) are not applicable.

F-2 **Inspection Schedule** 703.183(e), 724.115

CHSI's inspection program is designed to: 1) prevent and detect system malfunctions, equipment deterioration and operator errors which could ultimately lead to a release of hazardous waste to the environment of create a threat to human health, and; 2) provide CHSI with an early warning of the potential for such events in order that corrective and preventive actions may be taken in a timely manner.

A complete list of, and inspection schedule for, all monitoring equipment, health and safety equipment, security devices, and operational and structural equipment are presented in Table F-1. The inspection schedule is based on the rate of possible deterioration of equipment and probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. All areas subject to spills, such as loading and unloading area, are inspected daily when in use.

All inspections are conducted by qualified staff personnel familiar with the locations and normal operating conditions of the equipment and control systems in use. As necessary, CHSI will retain outside contractors to conduct specialized equipment testing and maintenance such as fire extinguisher testing and bulk storage tank integrity assessments. A written record of each inspection and any subsequent remedial follow-up activity is kept on permanent file at the facility.

For any discrepancy observed during an inspection, the inspector shall determine the potential for personal injury or for release of hazardous waste, and assess the nature of, and timeframe required for, the remedial action required. The determination shall consider (1) the location and nature of the problem; (2) the presence of secondary containment or control; (3) the amount and type of hazardous waste involved; (4) the potential for human exposure, and; (5) the likelihood for hazardous waste migration. A follow-up inspection to insure that the situation has been satisfactorily resolved will be conducted upon completion of the necessary remedial actions.

In addition to the inspection program, CHSI has developed a planned maintenance program involving pumps, motors, blowers, and other mechanical equipment. All of the operational equipment has been identified and catalogued. Maintenance information manuals have been prepared, illustrating expanded views, a list of individual parts and their order number, and pertinent maintenance information for every major piece of equipment utilized in the facility. A schedule has also been developed, based on manufacturer's recommendations, that lists the periodic maintenance items that must be performed on each piece of equipment in order to ensure optimum performance and longevity.

F-2a **General Inspection Requirements** 703.183(e), 724.115(a) 724.115(b), 724.133

The general facility inspection addresses the operability and condition of site security devices/structures, safety and emergency equipment, roadways, lighting system, fire extinguishers, buildings and other items of concern which are common to all facility operations.

F-2a (1) **Types of Problems** 724.115(b) (3)

The types of potential problems to be looked for during the general facility inspection include:

1. Breeches of security, either intentional or unintentional, by persons or natural (i.e., climatologic) events. Such breeches may occur due to damage to structures or obstruction, damage or loss of warning sign.

2. Health and safety equipment failure, absence of, or inaccessibility.

3. Malfunctions in the fire response equipment or facility lighting systems.

4. Housekeeping in the waste process areas and throughout the facility in general.

Table F-2 details the particular items of concern and the key inspection elements to address as part of the general facility inspection.

The general facility inspection will be documented using the forms presented in Figures F-1 (daily), F-2 (monthly), and F-3 (annual). The inspector will thoroughly examine the condition of each of the item listed on the form and, based on his observations, determine whether the item is in "acceptable" column for the inspector to describe the exact nature of any discrepancy. The completed form will be submitted to the General Manager for review and appropriate action.

An "acceptable" condition will be noted when the inspector observes that: the item is working as designed; there are no signs of unusual wear or deterioration and: housekeeping is excellent. An "unacceptable" condition will be noted when the inspector observes: that the item is functionally impaired and unacceptable for use; missing warning signs; cracks in containment structures; missing or spent fire extinguishers; waste spillage in contained or uncontained areas; obstructed aisles or roadways; signs of deterioration unusual wear (e.g., pitting/corrosion on tank surface, deterioration of pump gaskets, etc.) or damage; depleted quantities of spill control equipment, protective gear, and other health/safety equipment, or; poor housekeeping, maintenance or operational practices resulting in leaks, spills or over fills.

F-2a (2) Frequency of Inspection 724.115(b) (4)

The frequency of inspection for all items on the general facility inspection schedule was previously included in Table F-1.

F-2b Specific Process Inspection Requirements

The unit-specific inspection program evaluates the condition of the hazardous waste storage and transfer equipment (e.g., drums, tanks, pump, piping, etc.), secondary containment structures, and engineering controls such as the tank overfill alarm system. Each unit will be regularly inspected on a daily basis for malfunction, deterioration, failure, operator errors or other causes, which could endanger human health or the environment.

F-2b (1) Container Inspection 724.274

Container storage areas and secondary containment structures are visually inspected on a daily basis. The storage areas are inspected for accumulation of waste, leaking or structurally impaired containers, aisle space, and stacking. The secondary containment areas are inspected for signs of cracks or gaps in base, accumulation of liquids, and signs of waste migration outside the contained area. The bulk solid rolloff containers are inspected daily for corrosion, leakage, condition and placement of tarp cover, and condition of seal at the back gate. Inspection element and types of problem for containers are listed in Table F-2. The container system inspections will be documented using the forms presented in Figures F-1 (daily), F-2 (monthly), and F-3 (annual).

F-2b (2) Tank System Inspections 724.295(a) and (b)

Each bulk storage tank and waste-receiving tank is visually inspected on a daily basis for structural defects, corrosion, leakage, or overflow. The secondary containment areas are inspected for signs of cracks or gaps in the containment unit, accumulation of waste or precipitation, and signs of waste migration outside the contained area. The tank inspection also includes an assessment as to the operability of the various product level monitoring devices and high level alarm systems. Inspection elements and types of problems for tanks are listed in Table F-2. The tank system inspections will be documented using the forms presented in Figures F-1 (daily), F-2 (monthly), and F-3 (annual).

F-2b (2) (a) **Tank Construction Materials** 724.295(b) and (c)

All tank system components and ancillary equipment (e.g., hose coupling, pipe caps, etc.) shall be constructed of carbon steel, stainless steel, or other material which is compatible with the waste materials being contacted. The pumps shall be of Carbon Steel, Iron or Stainless Steel construction, The material of construction for individual pump is provide in the equipment list on CHSI Drawings 4207 Sheet 3 of 5, Sheet 4 of 5, and Sheet 5 of 5. The hoses shall be made of chemical resistant rubber with cross-linked Polyethylene Lining and Stainless Steel fittings. All Pope-hose connections utilize shall utilize EPDM, Viton, or Teflon (e.g. PTFE) gaskets. Materials of construction for the tank systems at the facility are shown in Tables D-3 and D-5.

Each tank is also evaluated on a yearly basis to assess its condition. The assessment includes the draining, cleaning, and visual inspection of the internal surfaces of the tank. The interior walls will be checked for softening, indentations, cracks, exposed fibers, aging, checking, lack of surface resin, delimitation translucency, discoloration, air bubbles, and tin areas. Standardized tank cleaning and confined space (tank) entry procedures are included for reference in Appendix F-1. In general, these procedures consist of, at a minimum, tank emptying followed by water rinses, and a purging of any vapors inside the tank. The tank must be drained, cleaned, purged and vented before tank entry is permitted.

All tanks are also subject to tank integrity assessment (e.g., ultrasonic shell thickness tests). Shell thickness will be measured at random locations and at any suspect area. The testing procedures for determining a tank's shell thickness, the minimum number of samples per tank, the locations of samples, and the qualifications of the person performing the testing are described in Appendix F-9. Tanks that exhibit unusual wear beyond the limits reasonably allowed in standard engineering practice will be taken out-of-service, and repaired or replaced as necessary. All annual inspection results will be reviewed and certified by a qualified independent registered professional engineer. Copies of the annual tank assessments are maintained on permanent file at the facility.

An independent professional engineer will provide a written assessment of new tanks before the tanks are utilized for waste storage. The assessment shall certify that tanks were properly designed and installed, and that the tank system has sufficient structural integrity and compatibility with the hazardous wastes to be stored.

F-2b (2) (b) **Tank Surrounding Area** 724.295 (b) (3)

The area around each tank is inspected daily for wet spots or other signs of leakage or overfilling. All tanks are located inside a secondary containment system designed to contain any leaked waste and rainwater that may accumulate.

F-2b (2) © **Tank Overfilling Control Equipment** 724.295(a)

To avoid any possibility of overfilling, each tank is equipped with two (2) independent high-level alarm systems. The first system is a microwave-type or ultrasonic liquid level meter, which continuously monitors and displays the liquid levels in the tanks. An audible and visual high level alarm is part of the system. The ultrasonic level meter is checked daily for proper operation alarm function. In addition to the level meter, each tank also has a high level float switch connected to a visual and audible alarm, Each tank level monitoring system is checked daily to insure its operability.

F-2b (2) (d) **Tank Monitoring Data** 724.294(b) (2)

Tank liquid level information is recorded in operator treatment logs throughout the course of each treatment operation. The operating logs are kept on permanent file at the facility.

Each tank level monitoring system is checked daily to insure its operability. In addition, on a weekly basis, calibrated using a gauge stick or other measuring device, to ensure the accuracy of the level measurements.

The headspace of each tank in the tank farm (Unit 16) is blanketed with nitrogen to provide an inert atmosphere above the liquid surface. A pressure between 1 and 2 inches of water column is maintained in the headspace with nitrogen. Each tank is provided with a low-pressure switch (LDP) which will activate an alarm if the pressure in the tank drops below 0.5 inches of water to alert the operator of possible malfunction in Nitrogen supply. Each tank is also supplied with a flame arrestor and a pipe away type combination Breather vent. The pressure side of the combination breather vent is vented to atmosphere through a common vent header and carbon columns. Each tank is provided with a high-pressure switch (HDP) which will activate an alarm and shut off any transfer pumps feeding the tank if the pressure in the tank rises above the set point. Each tank is also equipped with an emergency vent.

F-2b (2) (e) **Tank Level of Waste** 724.294(b) (3)

The waste receiving tanks and certain treatment process tanks (e.g., clarifiers, secondary treatment tanks, sludge sump, etc.) in the existing RCRA-exempt wastewater treatment system are open top tanks. As explained in Section D-2d, it is the nature and design of the treatment tanks to be operated in an open top manner. Many of the units operate in cascading-overflow mode, while others may utilize float-operated controls to regulate liquid in the tanks. All treatment tanks are under the constant supervision and control of process operators, who constantly observe for upsets in the system (e.g., overfill caused by clogged drain line) which could cause overflow into the secondary containment system. All of the open-top treatment tanks are located indoors; thus overtopping caused by wind action or precipitation events is not a concern.

The waste receiving tanks are not equipped with a level control device. Rather, liquid levels are maintained through constant supervision and control of process operations. The receiving tank system is equipped with a scupper, which is designed to contain any overflow from these units. No less than six (6) inches of free board is maintained in all waste receiving tanks at any time.

According to the "Rainfall Frequency Atlas of the United States" published by the US whether Bureau, 25-year 24-hour rainfall in the Chicago, IL area would produce approximately four (4) inches of rain. The minimum 6-inch freeboard in the receiving pits is sufficient to handle such a storm without overtopping. A copy of the 25-year 24-hour chart is included in appendix F-2. The effects of wind action on the receiving tanks are considered negligible given the minimal surface area (220-sq. ft.) which is exposed to the wind.

F-2b (2) (f) Tank Condition Assessment for Unretrofiitted Tanks 724.293(i)

All of CHSI's approved/proposed RCRA-Regulated hazardous waste storage tanks are designed to be equipped which meet the 35 IAC 724.293 secondary containment standards of tanks. Therefore, the requirements of this section do not apply.

F-2b (3) **Waste Pile Liner Inspection** 703.204(d), 724.353 (a) (3)
F-2b (4) **Waste Pile Inspection** 724.354(b)
F-2b (5) **Surface Impoundment Inspection** 724.326(b) and (c)
F-2b (6) **Incinerator Inspection** 724.447
F-2b (7) **Landfill Inspection** 724.403(b)
F-2b (8) **Land Treatment Facility Inspection** 724.373(g)

CHSI does not operate any waste piles, surface impoundments, incinerators, landfills, or land treatment units. Therefore, the requirements of F-2b (3) through F-2b (8) are not applicable.

F-3 **Waiver or Documentation of Preparedness and Prevention Requirements**

F-3a **Equipment Requirements** 703.183, 724.132

CHSI does not claim a waiver from the preparedness and prevention equipment requirements of 35 IAC 724.132. A detailed description of emergency equipment available at the facility is presented in Section F-3a (1) through F-3a (4) below. The location of the emergency equipment is shown in CHSI DWG. No. 4221.

F-3a (1) **Internal Communications** 724,132(a)

As shown in CHSI Dwg. No. 4221, telephones are located throughout the processing/storage, offices, and laboratory. Each telephone is capable of direct-dial internal and external calls. All of the telephones are equipped with a paging system to broadcast information over a loudspeaker system located inside and outside the buildings.

F-3a (2) **External Communications** 724.132(b)

As discussed in Section F-3a (1) above, each telephone at the facility is capable for direct dialing to outside emergency assistance agencies.

In Addition, CHSI shall maintain onsite at all times at least two (2) cellular phones for backup communication purposes. One phone shall be kept in the transportation/receiving building (Unit 4), and the other in the control building (Unit 9).

F-3a (3) **Emergency Equipment** 724.132 (c)

Emergency equipment is inspected as part of the routine daily and monthly facility inspection program (see Figures F-1 and F-2). Fire extinguishers are inspected for proper hanging, easy access, identification from a distance and a full charge. If an extinguisher shows signs of discharge, it is sent out for recharge. The location of all fire extinguishers is shown in CHSI DWG. No. 4221.

Eyewash/shower stations are tested to insure proper functioning and to remove any debris lying in the water lines. They are also inspected for both access and visibility from a distance. All storage buildings, processing areas, and exit ways are equipped with emergency lighting, which meets or exceeds applicable OSHA illumination standards. All exits are inspected to ensure that no obstructions exist which might interfere with an emergency evacuation and that all exit lights are lit. Emergency light circuits are tested to see that batteries are at full charge and function properly. The location of all exits, exit lights, eyewash/shower stations, chemical burn stations, eyewash stations and first aid stations are shown in the Contingency Plan. This equipment is inspected as shown in the Figures F-1 and F-2. A description of all spill control equipment, decontamination equipment and fire extinguishers available at this facility is presented in Table G-2 as part of the facility's Contingency Plan.

F-3a (4) **Water for Fire Control** 724.132(d)

Plant process water along the southern portion of the property (i.e., south of the existing truck scale) is supplied by 2 (two) Myers multistage centrifugal pumps. Each pump has a capacity of 80 gpm at 50 psi. Water lines extend along all walls of the plant and by all of the process vessels and pumps.

As part of the November 1993 Part B permitting process, CHSI retained a private fire consulting firm to evaluate the fire control equipment and procedures in the southern portion of the facility. The evaluation, based on a review of facility drawings and plans contained in this License Application, concluded that the facility design meets National Fire Protection Association standards for the storage and handling of flammable and combustible materials. Documentation of the evaluation and its findings are included in Appendix F-3.

As part of the July 1994 Request for Permit Modification, CHSI assumed operational control of additional hazardous waste management units in the northern portion of the property (i.e., north of the existing truck scale). The northern portion of the property is equipped with an extensive pre-action water/foam fire protection system which shall be constructed and operated to provide automatic, continuous 24-hour coverage in the Ignitable Liquid TankFarm, Ignitable Tank Truck and Rail Car Loading /Unloading Area, The Ignitable Tank Truck Staging Area, the Container Handling Dock, and Buildings 25, 26, and 43. The system is designed and operated in accordance with the following drawings and specifications:

Drawing No.	Revision No.	Revision Date
Cover	Rev. 2	12/14/94
FP1	Rev. 6	12/14/94
FP2	Rev. 5	12/14/94
FP3	Rev. 5	12/14/94
FP4	Rev. 3	12/14/94
FP5	Rev. 3	12/14/94
FP6	Rev. 3	12/14/94
FP7	Rev. 4	12/14/94
FP8	Rev. 4	12/14/94
FP9	Rev. 4	12/14/94
FP10	Rev. 3	12/14/94
FP11	Rev. 2	12/14/94
FP12	Rev. 3	12/14/94
FP1-E	Rev. 2	12/14/94
FP2-E	Rev. 2	12/14/94
FP3-E	Rev. 2	12/14/94
FP4-E	Rev. 3	12/14/94
FP5-E	Rev. 2	12/14/94
FP6-E	Rev. 2	12/14/94
FP7-E	Rev. 2	12/14/94
FP8-E	Rev. 2	12/14/94
FP9-E	Rev. 2	12/14/94
FP10-E	Rev. 2	12/14/94

Specifications Pages 1 through 14, Rev. 5, Dated 12/20/94

The fire suppression system drawings and specifications have been reviewed and approved by a professional engineer. A copy of the specifications and certification statement is included in Appendix F-4.

The primary fire protection system includes a 350,000-gallon fire water reserve tank, a 1,500-gallon per minute (GPM) diesel fire pump, hydrants, monitors, and various sprinkler system throughout the northern portion of the facility.

The 1,500-GPM diesel powered fire pump activates if the system pressure drops below a pre-set minimum, or if a power failure occurs. This pump provides the underground fire protection mains with adequate volume of water at 100 psig minimum to supply all of the facility of protection equipment. This pump is test run for minimum of one hour per week.

From the diesel fire pump and tank, an underground 10-inch diameter fire main encircles the facility in a closed loop providing fire protection from two directions. The loop supplies eight hydrants, eleven monitors, and several sprinkler systems.

The monitors are provided primarily for the bulk storage tank farm, the railcar offloading area, the bulk tanker offloading area, and the bulk tanker staging area, four of the eleven monitors are equipped with remote-activated foam suppression systems. The tank farm and transportation-related areas are within range of the foam monitors. Monitors are mounted on a swivel base and can be rotated 360°. The nozzles can be raised and lowered to further direct the flow.

Sprinkler systems are provided for existing Building 25, Building 26, Building 43, truck-unloading area, railcar offloading area, container handling dock, control building, laboratory, receiving building, maintenance building, and main office. All sprinkler systems automatically activate in the event of a fire.

F-3b Aisle Space Requirements

In container storage areas, drums will be stacked in rows, 2 drums abreast and 2-high, with a minimum 2-foot aisle space between rows. In the Flammable Storage Bays, the fourth and fifth pallets in each row are separated by a 5-foot wide buffer in compliance with NFPA requirements.

The main aisles in the plant are at least eight feet wide and are kept clear of obstructions at all times. All process vessels, control panels and pumps are accessible from the main aisles.

The aisles are continuously inspected for puddles, debris and other obstructions. Refer to CHSI DWG. No. 4210 for container storage area layout and aisle spacing details.

F-4 **Preventive Procedures, Structures and Equipment** 703.183(h)

F-4a **Unloading Operations** 703.183(h) (1)

A list of al the vehicle loading/offloading areas at the facility are presented in Table F-3.

All vehicles to be loaded or unloaded are parked on concrete-lined unloading pads, which are sloped to contain precipitation and spilled liquids. Container unloading operations are conducted using forklifts and handcarts. All drums are inspected for integrity and proper positioning on pallets prior to unloading. All aisle spaces and storage bays are concrete-lined and equipped with ramps to ensure safe movement of containers throughout the storage/processing area. Collection devices (e.g., drip buckets) shall be stationed at all hose/manifold/pipe disconnect activities to control/contain drips or other free liquid drainage which would otherwise spill into the secondary containment structures. Absorbent and neutralizing material are readily available for containment and cleanup if any spillage should occur during unloading. Proper container handling procedures, and bulk highway/rail transport loading /offloading are presented in CHSI's Container Management guidelines in Appendix D-2. Detailed drawings of the loading/offloading equipment in the railcar unloading area are shown on CHCI DWG. No. 4253.

Design details for the rail line, including secondary containment considerations, are shown in CHCI DWG. No. 4217. A professional engineering certification attesting to the adequacy of the design for the railcar unloading area is included in Appendix F-5.

CHSI has incorporated into tank farm/truck unloading area, two vapor balancing lines, rigidly connected at one end through individual flame arrestor to each individual set of activated carbon vapor control units. The other end of these lines will have a shutoff valve and a hose connection. During loading or unloading of railcars or tank trucks, through a special dome cover, the tanker/railcar that is to be worked on will be connected to the applicable vapor balancing live via hose. During tanker/railcar filling operation, the displace vapors will be conveyed from the tanker/railcar to the activated carbon bed. During unloading operation, same connection will convey vapors & nitrogen displaced from the tank being filled, to the tanker/railcar being emptied. CHCI DWG. No. 4204, Sheet 3 of 4 shows the vapor balancing piping.

F-4b **Run-off** 703.183(h)(3)

Each hazardous waste management storage area is located inside a secondary containment unit designed to collect spilled liquids and/or accumulating precipitation. Refer to Section D-1a (containers) and Section D-2f (tanks) for a complete description of the secondary containment devices unique to each management area.

Secondary containment in the unloading and loading areas is provided by a 6-inch thick concrete-lined truck pad, which slopes to a liquid collection system. Design features of the unloading and loading areas, including cross-sectional views and secondary containment features, are shown in the drawings referenced on Table F-3. Secondary containment by volume figures are noted on each drawing; supporting calculations are included in Appendix F-6

According to the "Rainfall Frequency Atlas of the United States" published by the US Department of Commerce, the expected rainfall from a 25-year 24-hour storm event is 4.0 – 5.0 inches of rain. Each of the outdoor loading /unloading areas is equipped with a minimum 6-inch high berm to prevent surface water run-on into the unit. These berms should provide adequate barrier to prevent surface water run-on a 25-year 24-hour storm event from entering the loading /unloading area.

Each outdoor loading /unloading area is inspected on a daily basis as part of the facility inspection plan for waste spillage and/or accumulation of precipitation. Any precipitation or spilled/leaked liquids collected within a secondary containment system will be either treated on site or containerized (in a drum or bulk tank) and shipped off-site to a properly licensed waste management facility. Depending upon the quantity of accumulated liquid, CHSI shall utilize absorbent materials, portable pumps and/or vacuum trucks to remove accumulated liquids.

With respect to rainwater, within 24 hours of completion of a precipitation event (or sooner if there is an expectation that the containment system may overflow and cause a run off to contaminated water), rainwater is removed from all sumps, pallets, etc., and place into portable containers such as tote tanks or bulk trailers.

F-4c **Water Supplies** 703.183(h) (3)

Contamination of the water supply is prevented by a physical separation in the water supply using an approved "TOBRA" backflow prevention system. Groundwater contamination is prevented by eliminating the discharge of hazardous materials onto the unprotected ground. All container storage areas and waste handling areas are constructed with concrete bases, sumps to contain any leakage, and pumps to remove this leakage.

F-4d **Equipment and Power Failure** 703.183 (h) (4)

In the event of equipment failure or power outages, the unloading operation and other treatment functions can be performed using gasoline powered back-up pumps, which are kept at the facility for such emergencies.

F-4e **Personnel Protection Equipment** 703.183(h)

CHSI has developed a comprehensive guidance document for the selection and use of personnel protection equipment (PPE) during hazardous waste operations at the facility. A copy of the document is included in Appendix F-7. CHSI has also developed a matrix, which specifies minimum PPE levels that are required for specific waste handling activities at the facility. The PPE matrix, which includes a list of the personnel protective equipment that is standard issue to all employees involved in waste handling activities, is presented in Table F-4.

Clean Harbors has developed a comprehensive H & S guidance manual which describes the Company's program for complying with applicable OSHA regulations such as Hazardous Waste Operations and Emergency Response (29 CFR 1910.120), and with related safe work practices such as proper handling procedures for containers (DOT), grounding and bonding procedures for transferring flammable liquids (NFPA), confined space entry procedures (OSHA), and lock-out/tag-out procedures (OSHA). A copy of the table of contents from the H & S guidance manual is provided in F-9 to provide an overview of the scope of the CHI H & S program.

F-5 **Prevention of Reaction of Ignitable, Reactive or Incompatible Wastes**
F-5a **Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes** 703.183(I), 724.117(a)

CHSI manages ignitable hazardous wastes in tanks and containers. Such material could themselves burn, could produce an ignitable vapor layer that could burn when exposed to open flames, or other ignition sources such as sparks or hot surfaces, or could work to sustain/accelerate a fire as in the case of oxidizers. Typical examples of ignitable hazardous wastes managed onsite include:

1. Organic-based characteristic (i.e., D001) and listed (e.g., F003) hazardous waste liquids/sludge's which have a flash point of less than 140° F, such as paints, spent solvents, and waste gasoline/fuel products that are intended for the hazardous waste fuel blending process;

2. D001 ignitable wastes which are flammable solids, and flammable gases which are typically in lab pack form and are intended of storage and subsequent transfer to a hazardous waste treatment or disposal facility (e.g., incinerator); and

3. D001 oxidizers such as nitric acid and inorganic permanganates intended for onsite treatment in the listed waste treatment system or the RCRA- Exempt CWA wastewater treatment system.

CHSI also manages reactive materials in tanks and containers. Such materials are considered reactive because they may react with air or water to cause a fire or rapid evolution of heat, or because of the potential to liberate a toxic gas, sulfide gas, or cyanide gas when exposed to improper chemical conditions. Typical examples include:

1. Cyanide or sulfide bearing wastewater's (e.g., D003) which are intended for onsite treatment in the listed waste treatment system or the RCRA-Exempt wastewater treatment system: and

2. Lab packs containing commercial chemical products (e.g., U- and P-Codes) that are water-reactive (e.g., Metallic Sodium) or air-reactive (e.g., Zinc metal fines) and which are intended for storage prior to offsite treatment and disposal.

Special precautions that have been developed for the handling of ignitable and reactive wastes at CHSI include:

1. The use of standard grounding and bonding procedures during each ignitable waste sampling and transfer activity (see Appendix F-8)

2. A prohibition against smoking at the facility. Smoking is prohibited in all areas of the facility, and "No Smoking " signs are posted throughout the facility.

3. A prohibition against open flames at the facility. No open flames are used or permitted at the facility. If any maintenance work requiring an open flame (i.e., welding torch) is necessary, a "hot work" permit must be obtained from the facility compliance manager. Any storage tank or process area where an open flame is required will be sufficiently decontaminated and/or monitored for the presence of volatile organic by the facility compliance manager in strict accordance with Clean Harbors Corporate Health and Safety Guidelines;

4. A Corporate H & S program, which requires the use of non-sparking tools in all potentially flammable/ignitable atmospheres or waste management units. For example, any work performed in the tank farm and associated areas would fall under that policy;

5. Segregated storage bays and a chemical operation plan which ensure that reactive/ignitable wastes are not placed in the same storage bay with other potentially incompatible materials. For example, acidic materials are not stored in the same bay as with cyanide or sulfide waste, and oxidizers are not stored in the same bay as ignitable wastes.

6. A warning statement (i.e. "flag") added to the generator waste material profile sheet (GWMPS) receiving documents to alert facility to the presence of acute hazardous wastes, many of which are highly toxic an/or reactive;

7. Equipment and procedures of the direct offloading of drums and bulk tanker loads of high hazard, high concentration waste to the wastewater treatment reactor systems to avoid potential incompatible reactions inside the bulk storage tanks;

8. A specialized nitrogen inerting system for the bulk ignitable liquid tanks and fuel blending system, and a foam fire suppression system in throughout the CWMCSI side of the facility; and

9. Rigorous waste pre-qualification and treatability testing of all reactive wastes intended of onsite treatment (Refer to the facility waste analysis plan in section C of the application).

F-5b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste 724.117(b)

As part of the Waste Analysis Plan (WAP), CHSI conducts stringent incoming waste testing to prevent the ignition or reaction of ignitable, reactive or incompatible wastes. No waste is accepted into the facility for treatment or storage until a representative sample has been obtained and analysis is run to determine all information necessary to store, treat and dispose of the waste. All waste undergoing mixing/consolidation are subject to compatibility testing (ASTM D5058A) as described in Section C-2a (iii). All containers are subject to special compatibility test (see Appendix C-6) prior to being placed into storage.

Reactive wastes, after sampling and analysis, are accepted and batch pretreated in the reactor vessel prior to mixing with other waste streams. The reactor vessel is rinsed and cleaned of all residues between loads to prevent the mixing of incompatible wastes. Incompatible containers are staged in separate, contained storage bays to avoid any potential adverse reactions. All drum storage areas are covered with a roof structure to minimize container contact with precipitation.

F-5c Management of Ignitable and Reactive Wastes in Containers 724.117

A. <u>Ignitable Wastes</u>

Ignitable wastes are stored/treated in the following RCRA-Regulated container storage and processing areas identified on CHSI DWG. No. 4204, Sheets 1 and 2:

Container Storage Areas

R1. Drum Storage Area (CHSI DWG. No. 4210, 1 of 3)
- Staging Area
- Flammable 1 Bay
- Flammable 2 Bay
- Oxidizer Bay

R2. Drum Storage Area Expansion (DWG. No. 4210, 1 of 3)
- Staging Area
- Flammable 3 Bay
- Oxidizer Bay

U. Lab Pack Repack Building (DWG. No. 4211)
- Flammable Bay
- Organics Bay
- Organic Pouroff Bay
- Oxidizer Bay

24. Shredder Process Building 24 (CHSI DWG. No. 4287)

25. Building 25 (CHSI DWG No. 4282)
- Flammable Bay

26. Building 26 (DWG No. 4210, 2 of 3)
- All Storage/Consolidation Areas

42. Building 42 (CHSI DWG. No. 4287)

43. Building 43 (DWG. 4213, 2 Of 3 and Nos. 4235-42)
- Pegasus Fuel Blending System

61. Container Handling Dock (DWG No. 4245)
- Staging Area

68. Metal Wash Pad (DWG. No. CHSI 4287)

Bulk Truck and Container Vehicle Storage

13. Existing Rail Car Unloading Area (DWG. No. 4251)
15. Truck Unloading Platform (DWG. No. 4248)
59. Ignitable Bulk Liquid Truck Staging Area (DWG. No. 4247)
69. Truck Loading/Unloading Pad (CHSI DWG. No. 4292)

Container Vehicles Storage Only

B. Bulk Solids Storage Pad (DWG. No. 4218)
C. Truck Staging Area (DWG. No. 4218)
Q Truck Unloading Area & Bulking Area (DWG. No. 4234)
V. Truck Loading Dock (DWG. No. 4234)
W. Truck Pad (DWG. No. 4244)
25. Truck Loading/Unloading Pad (CHSI DWG. No. 4283
62. Truck Pad (DWG. No. 4246)

The four general waste handling operations for ignitable wastes in containers are described below. Equipment and layout details for the various activities are shown in the drawings referenced above.

1. Fuel Blending: Ignitable hazardous wastes which can be used as a supplemental fuel are received in drums and bulk containers and stored in one of the ignitable drum/vehicle storage areas identified in the list above. Drum-size containers of liquid may be pumped directly into the ignitable liquid tank farm using the drum pumping station inside Building 26 (Unit 26), Building 61 (Unit 61) or using a flat bed trailer parked in the ignitable truck unloading platform (Unit 15) using a portable pump connected to the tank manifold system. Waste may also be indirectly transferred to the tank farm by pumping the drums onto a vacuum truck, which is then offloaded inside Unit 15. Bulk liquid transport vehicles (tankers, vacuum trucks, and rail cars) are also received and pumped into the tank farm using the offloading equipment in Unit 15 for highway vehicles, or in the rail car unloading area (Unit 13) for rail tankcars. Drums containing solids, sludges, and liquids are fed onto a contained conveyer unit inside Building 26, and then processed through the Pegasus fuel blending system in Building 43. In the dedrumming step of the fuel blending process, nitrogen inerting is used to reduce fire/explosion hazard. An on-line oxygen analyzer controls the nitrogen purge until the headspace of the dedrummer is low enough in oxygen to be outside of the explosive limits. In practice, oxygen content of 5% or less is considered inert. The blended fuel is stored in the ignitable bulk liquid tank farm (Unit 16) under a nitrogen blanket inerting system and subsequently loaded onto a highway or rail transport vehicles for shipment to a Cement Kiln or other reuse facility.

2. Storage and transfer in containers: Containers of ignitable waste, typically in lab pack form, are stored in the designated ignitable drum bays (see list above) and then prepared for shipment to offsite treatment and disposal facility. Handling activities prior to shipment may include bulking (i.e., "Pouring-off") or repacking of compatible waste. Bulking operations are conducted using the consolidation hood equipment in Building 26 and Building 25, or vacuum trucks staged in truck unloading area & bulking area (Unit Q) adjacent to the outdoor container storage area (Unit R1). Repacking of lab packs is conducted under ventilation hoods in Building 26, Building 25, Unit U or in the outdoor container storage area (Unit R1).

3. Storage and transfer to tanks: Containers of compatible ignitable liquids may be consolidated in the bulk storage tanks prior to shipment to an offsite incinerator. For example, organic/water mixtures (i.e., "Lean Waters") may be pumped to the storage tank for treatment using phase separation techniques. The recovered organic layer and sludges would be shipped to an incinerator, while the recovered aqueous layer would be treated onsite in the listed waste treatment system or the RCRA-Exempt CWA treatment system. Lean waters and incinerable liquids in containers are transferred to the bulk storage tanks using the same loading/offloading systems described above for fuel blending wastes. Containers of ignitable oxidizers (e.g., nitric acid, potassium permanganate, and peroxides) intended for onsite treatment may be offloaded to the listed waste treatment system (Unit Z) or the RCRA-Exempt CWA Treatment system.

4. Shredding: Ignitable hazardous wastes, which can be used as a supplemental fuel or are non-dispersible solids, are received in drums and bulk containers and stored n one of the ignitable container/vehicle storage areas identified in the list above. Drum-size containers of liquid may be pumped directly into the flammable storage liquid tank farm (Unit 16) using the drum pumping station inside Building 26 (Unit 26), Building 61 (Unit 61) or using a flat bed trailer parked in the ignitable truck unloading platform (Unit 15) using a portable pump connected to the tank manifold system. Drum-size containers of liquid may also be pumped directly into the flammable storage liquid tank farm (Unit 22) using a flat bed trailer parked in the truck loading/unloading platform (Unit 69) using a portable pump connected to the tank manifold system. Waste may also be indirectly transferred to the tank farms by pumping the drums onto a vacuum truck, which is then offloaded inside Unit 15 or Unit 69. Bulk liquid transport vehicles (Tankers, vacuum trucks, and rail cars) are also received and pumped into the tank farms using the offloading equipment in Unit 15 or Unit 69 for highway vehicles, or in the rail car unloading area (Unit 13) for rail tankcars. Drums containing solids, sludges, and liquids are fed onto a contained conveyer unit and dropped into the primary shredder. In dispersible materials operation, decontainerized wastes are conveyed to the hydropulpar tank with low viscosity liquids. The blended material is returned to the tank farms. In non-dispersible materials operation, the shredded material is loaded into a covered hopper which when full is emptied into a roll-off for off-site shipment to a disposal facility. In the decontainerizng step of the shredding process, nitrogen inerting is used to reduce fire/explosion hazard. An on-line oxygen analyzer controls the nitrogen purge until the headspace is low enough in oxygen to be outside of the explosive limits. The blended fuel is stored in the flammable liquid tank farms (Unit 16 or Unit 22) under a nitrogen blanket inerting system and subsequently loaded onto a highway or rail transport vehicles for shipment to a Cement Kiln or other reuse facility.

All RCRA-Regulated ignitable waste management areas are at least 50 feet from the facility's property line. Refer to CHCI DWG No. 4204 for the location of the units identified above relative to the property boundaries.

B. Reactive Wastes

Reactive wastes are handled in the following RCRA-Regulated container storage and processing area identified on CHCI DWG. No. 4204, Sheets 1 and 2:

Container Storage Areas

F1. Lab Pack Pour-Off Area
G1. Drum Storage Area (Building 2) (DWG. No. 4209, 2 of 2)
- Staging Area
- Alkaline Bay (e.g., Cyanide/Sulfide)
- Acidic Bays
R1. Drum Storage Area (DWG. No. 4210, 1 of 3)
- Staging Area
- Reactive Bay (e.g., Water and Air Reactive)
- Poison Bay
R2. Drum Storage Area Expansion (DWG. No. 4210, 1 of 3)
- Staging Area
- Reactives Bay
- Poison Bay
U. The Lab Pack Repack and Consolidation Area (DWG. No. 4211)
- Acids Area
- Bases Area
25. Building 25 (CHSI DWG. No. 4282)
- Acid Bay
- Alkaline/Poison Bay
61. Container Handling Dock (DWG. No. 4245)
- Staging Area

Bulk Truck and Container Vehicle Storage

C. Truck Staging Area (DWG. No. 4218)
Q Truck Unloading Area & Building Area (DWG. No. 4210, 1 of 3)
V. Truck Loading Dock (DWG. No. 4234)
W. Truck to Truck Transfer Dock (DWG. No. 4244)
X. Listed Waste Loading/Unloading Pad (DWG. No. 4216)
13. Rail Car Unloading Area (DWG. No. 4217)
14. Tank Truck Unloading Platform (DWG. No. 4248)
59. Ignitable Bulk Liquid Truck Staging Area (DWG. No. 4247)
62. Truck Pad (DWG. No. 4246)
69. Truck Loading/Unloading Pad (CHSI DWG. No. 4292)

There are three general waste handling operations for reactive wastes as described below. Equipment and layout details for the various activities are shown in the drawings referenced above.

1. Storage and transfer in containers: Containers of reactive waste, typically in lab pack form, are stored in the reactive, alkaline or other chemically-compatible bays identified above, and then prepared for shipment to offsite treatment/ disposal facility. Handling activities may include the repackaging of compatible waste inside the designated consolidation areas in Building 25 (Unit 25), Building 26 (Unit 26), Building U (Unit U) or the ventilation hoods in Unit R1 or Building 2 (Unit G).

2. Storage and transfer to tanks: Containers of reactive waste are held in storage and then pumped directly into a treatment reactor in the listed waste treatment system in process building 3 (Unit Z) or in the RCRA-Exempt CWA treatment system in process building 1 (Unit F). Containers of lab pack waste can be poured-off in Unit F1 into a treatment reactor in the RCRA-exempt CWA treatment system in process building 1. Similarly, bulk liquid transport vehicles are stored and then direct-offloaded to the treatment reactors in building 3 (Unit Z) or Building 1 (Unit 1).

3. Storage and crushing of used lamps: Lamps containing reactive waste are held in storage and then crushed for volume reduction and preparation for recycling. The lamp crusher is located in Building 25. Some used lamps contain sodium and could be considered reactive. Sodium would react with water which is not introduced at any point in processing the used lamps.

All RCRA-Regulated reactive waste management areas are at least 50 feet from the facility's property line. Refer to CHCI DWG. No. 4204 for the location of the units identified above relative to the property boundaries.

F-5d **Management of Incompatible Wastes in Containers** 703.201(d) 724.277.

Before drums of waste are accepted for storage at the facility, they are checked to make sure that they are properly labeled, sealed, are in food condition and that they pass the fingerprint test. All drums are stored in specially designated bays with other compatible materials. Containers holding incompatible wastes of differing characteristics are stored separately form each other in segregated storage bays. Specific areas are designated for reactive, alkaline acidic, ignitable, organic and poison wastes. The floor of each container storage area is sloped to a floor sump, which collects any drum leakage. These measures would prevent any mixing of incompatible materials. A minimum 2-foot aisle space is maintained between each row of pallets.

In the container storage areas, individual storage bays are separated by concrete curbs and ramps to prevent liquid migration between adjacent bays. In addition, in the indoor storage area (Unit G1) inside Building 2, and in Building 25 (Unit 25), metal railings have been constructed between adjacent bays as a physical barrier to prevent drums from falling off a pallet and into an adjacent bay in which incompatible wastes are being stored.

The container handling dock (Unit 61) is a single containment system unit that primarily intended for the receipt and handling of chemically-compatible organic liquids and solids which are intended for storage in Building 26 (Unit 26) and subsequent processing in the hazardous waste fuel blending system. However, the dock may also be used for the conveyance of containers of acid, alkaline, and PCB waste materials destined for storage in Building 25 (Unit 25). In order to provide proper segregation for potentially incompatible materials that shall specially designed "self-contained" pallets in the event that a waste material, which is incompatible with materials already present on the dock, is encountered. CHSI shall maintain a readily available supply of ENPAC Corporation "Poly-Spillpallet 3000", or equivalent, for container dock handling activities. Manufacturer's literature for The Self-contained Pallet Devices is provided in Appendix D-35.

F-5e **Management of Ignitable or Reactive Wastes in Tank Systems** 703.0202(f), 724.298

A. Ignitable Wastes

Ignitable wastes are managed in the following RCRA-regulated tank storage and treatment areas identified on CHSI DWG. No. 4204, sheets 1 and 2:

Tank Storage Area

16. Tank Farm (DWG. Nos. 4215 ,4250, & 4252)
    - T101 through T107,T109, T110 and T112
    - Ignitable Liquids (i.e., Flash Point less than 140° F)
22. Tank Farm (DWG. Nos. 4294 ,4295, & 4296)
    - T415 through T418
    - Ignitable Liquids (i.e., Flash Point less than 140° F)

Y. Listed Waste Storage Tanks (DWG. Nos. 4213 1/3 & 4216)
- T208 Through T215
- D001 Oxidizers (e.g. strong acids, permanganates, peroxides) only; no ignitable liquid with a flash point less than 140° F.

Tank Treatment

16. Tank Farm (DWG. Nos. 4215, 4250, & 4252)
    - Phase Separation

Y Listed Waste Storage Tanks (DWG. Nos. 4213 1/3 & 4216)
- Phase Separation
- Commingling of Corrosive Wastes

Z Listed Waste Treatment System (DWG. Nos. 4213 & 4207 2/4)
- Physical/Chemical Testament

The two general waste handling operations for ignitable wastes in tanks are described below. Equipment and layout details for the various activities are shown in the drawings referenced table.

1. Storage/Transfer in Tanks: Containers of compatible ignitable liquids may be consolidated in the bulk storage tanks (Unit 16 and Unit 22) prior to shipment to an offsite incinerator or cement kiln. Storage and transfer in the tanks may or may not be accompanied by an in-tank treatment activity such as phase separation or commingling of compatible corrosives to drop the D002 code. For example, an organic/water mixture (i.e., "Lean Water") may be pumped to the storage tank for treatment using phase separation techniques. The recovered organic layer would be shipped to an incinerator or cement kiln, while the recovered aqueous layer would be transferred by vacuum truck to the onsite listed waste treatment system (Unit Z) or the RCRA-Exempt CWA Treatment System. Lean waters, fuels and incinerable liquids in containers are transferred to the bulk storage tanks using the same loading/offloading systems described above for fuel blending wastes.

2. Storage and Wastewater Treatment: Containers of ignitable oxidizers (e.g., nitric acid, potassium permanganate, peroxides) intended for onsite treatment may be stored in the listed waste storage tanks (Unit Y), or direct offloaded to the listed waste treatment system (Unit Z) or the RCRA-Exempt CWA Treatment System. Treatment activities include physical/chemical methods such as neutralization, oxidization, reduction, metals removal, organic polishing, etc.

B. <u>Reactive Wastes</u>

The two general waste handling operations for reactive wastes in tanks are described below. Equipment and layout details for the various activities are shown in the drawings referenced above.

Tank Storage Area

Y. Listed Waste Storage Tanks (DWG. Nos. 4213 1/3 & 4216)
- T208 through T215
- Characteristic/listed reactive wastes

Tank Treatment

Y. Listed Waste Storage Tanks (DWG. Nos. 4213 1/3 & 4216)
- Phase Separation
- Commingling of corrosive Wastes

Z. Listed Waste Treatment System (DWG. Nos. 4213 & 4207 2/4)
- Physical/Chemical treatment.

1. Storage/Transfer in Tanks: containers of compatible reactive liquids such as cyanide or sulfide bearing wastes, may be consolidated in the listed waste storage tanks (Unit Y) prior to shipment to an offsite incinerator. Storage and transfer in the tanks may or may not be accompanied by an in-tank treatment activity such as phase separation or commingling of compatible corrosives to drop the D002 code. For example, an electroplating sludge water/mixture containing cyanide may be pumped to the storage tank for treatment using phase separation techniques. The recovered aqueous layer would be decanted and treated in the listed waste treatment system (Unit Z) or the RCRA-Exempt CWA treatment system, while the sludge layer would be dewatered and stabilized for offsite disposal.

2. Storage and Wastewater Treatment: Containers of reactive wastes intended for onsite treatment may be stored in the listed waste storage tanks (Unit Y), or direct offloaded to the listed waste treatment system (Unit Z) or the RCRA-Exempt CWA Treatment system. Treatment activities include physical/chemical methods such as neutralization, oxidization, and reduction, metals removal, organic polishing, etc.

The management of ignitable or reactive wastes received for tank storage and treatment is controlled by stringent waste prequalification, treatability, and compatibility testing procedures (as described in the facility's Waste Analysis Plan in Section C of this application), and strict adherence to the operational practices outlined in Section F-1 above. Before any waste is accepted for treatment, a representative sample must pass a treatability and compatibility test. The laboratory designates which receiving tank each truckload of waste is discharged into. This assures that only compatible waste streams go into the same receiving tank in case there is any residual left in the tank from the previous truckload. If necessary, the receiving tanks and ancillary waste transfer equipment (e.g., pumps) may be washed out with water or other compatible solvents/detergents and cleaned of any sludge or other residue that may react with the next intended waste. If any waste requires pretreatment to render it acceptable to mix with the other wastes received, the pretreatment is preformed in the appropriate treatment vessel. All hazardous waste fuel-blending tanks are equipped with a nitrogen inerting system to reduce the potential fire/explosion hazard.

To prevent cross-contamination between tanks, piping manifolds are provided with motorized valves with position indicators. The opening and closing of valves in the tank farm shall be programmed to prevent multiple transfers to and from any given tank. At a time, only one source will be able to fill the tank or withdraw from the tank. Tank to tank transfer will be done through rigid piping and not through a hose connection. Specific tank farm piping details are provided in CHCI DWG. No. 4207 Sheet 3 of 4, and No. 4207 Sheet 4 of 4. In addition, for PCB and non-PCB wastes, CHSI shall designate and color-code any hose which is used for PCB loading-offloading operations. All hose connections (i.e., truck to manifold), valve sequencing and bulk liquid transfers shall be performed in accordance with written standard operating procedures.

As shown on the facility site plans (CHSI DWG. No. 4204), all of the tank systems used to manage incompatible material are located more than 300 feet from the nearest public roadway and from the nearest adjoining property which can be built upon. This distance far exceeds the NFPA 30 standard for minimum protective distance for "unstable liquids" (vigorously polymerizes or decomposes, undergoes condensation reaction, or becomes self-reactive under conditions of shock, pressure or temperature.

F-5f Management of Incompatible Wastes in Tank Systems 724.298

A. Flammable Storage Tank Farm (Unit 16)

There are ten (10) tanks in the flammable storage tank farm (Unit 16). The tanks are 12,800 gallons in size, except for Tank T-112 that is 19,800 gallons in size. The tanks will be used to manage four (4) types of organic- and aqueous-based wastes:

1. Tanks T-101 & T-107: Both 316 Stainless Steel, used for acidic waters, lean waters, and/or hazardous waste fuels;

2. Tanks T-103 through 106 & 109: All Carbon steel tanks, used for hazardous waste fuels;

3. Tank T-112, a Carbon Steel Tank used for neutral pH waters, lean waters, and/or hazardous waste fuels; and

4. Tanks T-102 & T-110: Both Carbon Steel tanks, used for storage of Polychlorinated Biphenyl's (PCB's) or hazardous waste fuels

In general, there are two (2) types of potentially incompatible wastes managed in the ignitable tank farm:

1. The mildly acidic waters expected to be managed in tanks T-101 and T-107 could be chemically "incompatible" with the neutral and mildly alkaline wastes stored in other tanks: and

2. The PCB/TSCA wastes stored in Tanks T-102 and T-110 are "Incompatible" (from a regulatory standpoint) from the RCRA hazardous wastes stored in remainder of the tanks.

To address potential compatibility issues, the tank farm has been designed to provide segregation between the various wastes Specifically, there are five separate loading/unloading equipment systems (manifold, piping, pumps, etc.) servicing the tank farm: one for tank T-101 and T-107: one for tanks T-103 through T-106, & T-109: and one each for tanks T-102, T-110, and T-112. In this way, the potential for a reaction between acidic/non-acidic waste or a cross contamination of PCB/RCRA waste is greatly limited. In addition, the valves in the tank farm are pre-sequenced and computer controlled to eliminate errors due to directing an incompatible waste into the wrong tank.

In addition, CHSI shall utilize color-coded hoses used to connect transport units with the tank farm to prevent cross-contamination or reaction within the lines. A detailed description of the feed system for the tank farm is provided in Section D-2D and on DWG. No. 4207 Sheet 3 of 5, Sheet 4 of 5, and Sheet 5 of 5. The location of ancillary equipment in and around the tank farm is provided in DWG. No. 4250.

CHSI has, as part of the facility hazard and operability study (HAZOP Study), developed and shall follow a written standard operating procedure (SOP) for all tank loading/unloading and storage/treatment activities, including compatibility testing and incompatible waste segregation procedures. In addition, if a waste is identified as incompatible with the material previously stored in the tanks, the storage vessel(s) and ancillary equipment shall be washed out and cleaned of all residue between storage batches to ensure that no potentially incompatible residue between storage batches to ensure that no potentially incompatible residue is remaining in the equipment.

As shown on the facility site plans (CHSI DWG. No. 4203 Sheet 2 of 3), the tank farm (Unit 16) used to manage incompatible materials is located more than 300 feet from the nearest public roadway and from the nearest adjoining property which can be built upon. This distance far exceeds the NFPA 30 standard for minimum protective distance for "“unstable liquids”.

B Listed Waste Storage/Treatment System (Units Y and Z)

There are eight (8) Carbon Steel tanks each with a capacity in 11,025 gallons, in the listed waste storage tank system (Unit Y). In addition, there are 10 tanks of various sizes and materials of construction in the listed waste wastewater treatment system (Unit Z). These tanks are used to treat various characteristic (i.e., D-Codes) and listed wastes (e.g., F- and K-Codes) using conventional and specialized physical and chemical treatment technologies such as neutralization, coagulation, flocculation, precipitation, oxidation, reduction, air stripping, chelation breaking, and carbon adsorption. The system is described in more detail in Appendix D-2.

The tanks in these systems will be used to manage/treat a wide range of wastes such as corrosive materials (i.e., acids and bases), electroplating wastes, pickle liquors, oxidizers, and cyanide/sulfide bearing wastes. Many of the wastes could be chemically incompatible, and if mixed together in improper fashion, could result in unwanted products of reaction such as excessive heat or cyanide/sulfide gases.

In accordance with the Facility Waste Analysis Plan, all wastes intended for storage and/or treatment undergo a thorough prequalificaiton screening and treatability laboratory analysis. All waste transfer operations (i.e., loading, offloading, mixing, and discharge) and treatment activities are based on the results of the laboratory testing. As part of the facility Hazop Study, CHSI has developed and shall follow a written standard operating procedure (SOP) for all tank loading/unloading and storage/treatment activities, including compatibility testing and incompatible waste segregation procedures.

In general, any waste which may be incompatible with other stored wastes will be segregated and treated in the pretreatment system prior to mixing with the general waste streams. If necessary, the storage/pretreatment vessel(s) and ancillary equipment may be washed out and cleaned of all residues between storage/treatment batches to ensure that no potentially incompatible residue is remaining in the equipment. Equipment details for the feed, storage, and treatment systems and ancillary equipment is shown in CHSI DWG, Nos. 4207 1 of 4, 4207 2 of 4, 4213 1 of 3, and 4229. All of the equipment is designed to be suitable for the range of wastes to be encountered.

As shown on the proposed site plan, the listed waste tank storage/treatment systems (Units Y and Z) which area used to manage incompatible materials are located more than 300 feet from the nearest public roadway and from the nearest adjoining property which can be built upon. This distance far exceeds the NFPA 30 standard for minimum protective distance for "unstable Liquids".

F-5g **Management of Ignitable or Reactive Wastes Place in Waste Piles** 703.204(f)

F-5h **Management of Incompatible Wastes Placed in Waste piles** 703.204(g)

F-5i **Management of Ignitable or Reactive Wastes in Surface Impoundment's** 703.203(g), 724.329

F-5j **Management of Incompatible Wastes Placed in Surface Impoundment's** 703.203(h), 724.329

F-5k **Management of Ignitable or Reactive Wastes in Landfills** 703.207(f), 724.412

F-5l **Management of Incompatible Wastes Place in Landfills** 703.207(g), 724.413

F-5m **Management of Ignitable or Reactive Wastes in Land Treatment Units** 703.206(g), 724.381

F-5n **Management of Incompatible Wastes Placed Land Treatment Units** 703.206(h), 724.382

CHSI does not operate any waste piles, surface impoundments, incinerators, landfills, or land treatment units. Therefore, the requirements of F-5g through F-5n are not applicable.

Table F-1: Inspection Schedule

Item	Inspection Element/Type of Problem	Frequency
A. Security Devices		
Fence	Inspect Entire Perimeter For Breaches or Damage	Daily
Gates	Check For Proper Gate Lock Function	Daily
Warning Signs	Check for Presence Of Warning Signs	Daily
Lighting System	Check Lights For Operability	Daily
Lighting System (Emergency)	Check Lights For Operability	Monthly
B. Safety & Emergency Equipment		
Protective Gear (E.g., helmets, face shields, Goggles, boots, gloves, acid Resistant clothing, disposable Suits, disposable bags)	Check Accessibility	Daily
	Check For Adequate Supply	Daily
	Check For Deterioration, Damage	Daily
Breathing Apparatus	Check For Accessibility	Daily
	Check For Adequate Supply, Full Charge On Canisters, And All Air Tanks	Daily
	Check For Deterioration and Damage	Daily
	Check For Function	Monthly
First Aid Kits	Check Accessibility	Daily
	Check For Adequate Supply	Daily
Emergency Showers	Check That Units Activate And Shut Off Properly	Daily
	Check Accessibility	Daily
Water Lines	Check For Adequate Pressure	Monthly

Table F-1: Continued

Item	Inspection Element/Type of Problem	Frequency
Internal (Phone or Radio) /External (Phone) Communication Systems	Check Accessibility	Daily
	Check For Operations	Daily
	Test Cell Phones	Monthly
Fire Extinguishers	Check Pressure Gauge For Full Change Indication	Monthly
	Check Inspection Tag To Insure Annual Maintenance By Outside Fire Service Is Up-To-Date	Monthly
	Check Seal To Ensure No One Has Used Extinguisher	Monthly
	Check To Ensure Access To Units Is Not Blocked	Daily
Fire Suppression System (Monitors Pull stations	Check For Accessibility	Daily
	Test Fire Alarm Warning Systems	Annually
	Test Foam Supply	Annually
Absorbent Supply	Check For Adequate Supply	Daily
Recovery Drums	Check For Adequate Supply	Daily
Other Emergency and Decontamination Equipment	Check Accessibility	Daily
	Check For Adequate Supply	Daily
	Check For Deterioration/Damage	Daily
Respirators and Cartridges	Check For Adequate Supply	Daily

(Continued)

Item	Inspection Element/Type of Problem	Frequency
C. TANK SYSTEMS		
Storage Tanks Containment Area	Check For Evidence Of Spilled Materials On Floor and Collection Sumps	Daily
	Check For Cracks And Gaps In Or Damage To Containment Base, Sumps And Drains, And Their Coatings	Daily
	Check For Evidence Of Seepage Outside Containment (E.G., Discoloration)	Daily
	Check For Debris, Cleanup Residue, Improperly Stored Equipment	Daily
Storage Tanks	Inspect Tank Exterior For Cracks, Leaks, Discoloration, And Obvious Deformation	Daily
	Check Tank Integrity	Annually
Access Hatches, Vents, And Sampling Ports	Check For Leaks	Daily
	Check For Damage	Daily
Fill/Drain and Overflow Piping	Inspect Piping, Elbows, Sampling Ports, Gauge Taps, Etc. For Leaks and Corrosion	Daily
	Inspect Valve Seals For Leaks	Daily
	Check That Handles Are Not Bent Or Damaged	Daily
	Inspect Heat Trace Lines For Deterioration/Damage	Daily

Table F-1: Continued

Item	Inspection Element/Type of Problem	Frequency
Liquid Levels	Check If Operator's Logbook Is Up To Date	Daily
	Check Tank Liquid Level Indicators For Operability	Daily
	Check Containment Sump Liquid Level Indicators	Daily
All Ancillary Equipment	Visual Inspection For Leaks And Corrosion	Daily
	Conduct Leak Test Or Approved Integrity Assessment	Annually
Tank Truck Loading/ Unloading Area	Check For Evidence Of Spills Or Releases In Unloading Area	Daily
	Check For Removal Of Spill Absorbent And Cleanup Materials	Daily
	Check Sump, Grating And Curbs For Cracks Or Damage	Daily
	Inspect Hoses Or Deterioration Or Leakage	Daily
	Inspect Those Couplings And Valves For Leakage	Daily
	Inspect Containment System For Deterioration	Daily
	Inspect Grounding System For Operability	Daily
Control/ Monitoring Equip.	Maintenance Inspection - Tank Level Monitors - Containment Sump floats - High/Low Level Alarms - High/Low Pressure Switches And Alarms - Nitrogen Blanket Supply System	Per Manufacturer's Recommendations
Flame Arrestors, Conservation Vents, Emergency Vents	Check For Obstruction Or Other Damage	Annually
Carbon Absorption Canisters	Check That Units Are Functional And That Valves Are Properly Positioned	Daily
	Check Carbon Bed For Organic Breakthrough	Daily

Table F-1: Continued

Item		Inspection Element/Type of Problem	Frequency
D.	CONTAINER STORAGE		
	Container Storage Area	Check For Evidence Of Spilled Material On Slab, Ramps, Drains Sumps	Daily
		Check For Removal Of Absorbent Materials And Clean-Up Rags	Daily
		Check For, Cracks And Gaps In Or Damage To, Containment Bases, Sump And Drains And Coatings	Daily
		Check For Erosion, Uneven Settlement, Etc.	Daily
		Check For Corrosion Of Grating Over Drains and Sumps	Daily
		Check For Condition And Availability Of Overpack Containers	Monthly
	Stored Containers	Check For Drums Being In Good Condition	Daily
		Check That Drums Are Not Open	Daily
		Check For Proper Placement	Daily
		Check Adequacy Of Aisle Space	Daily
		Check Height Of Stacks	Daily
		Check Storage Capacity Not Exceeded	Daily
		Check For Proper Labeling	Daily
	Container Loading/ Unloading Area	Check For Damaged Containers	Daily
		Check For Evidence Of Spilled Material On Slab And Ramps Used	Daily
		Check For Removal Of Used Absorbent And Cleaning Materials	Daily

Table F-1: Continued

Item	Inspection Element/Type of Problem	Frequency
	Check For Prompt Container Removal From Receiving Area	Daily
	Inspect Grounding System Equipment For Operability	Daily
	Check Forklifts For Proper Operation and Accumulation Of Residue	Each Operating Shift

Table F-2: Facility Inspection – Key Inspection Elements

Element		Item of Concern
A.	Site Security	- Perimeter Fence Check For Damage, Breeches
		- Entrance Gate Lock Operable
		- Roadways Unobstructed And In Good Repair
		- Legible Warning And Exit Signs Posted Throughout The Facility
		- Lighting System Functioning Properly
		- Evidence Of Spills/Releases Outside Of Contained Areas
		- Roof Structure In Good Repair
		- Facility Sign-In Log Up-To-Date
B.	Safety/Emergency Equipment	- Fire Suppression System Operable And Manual Pull-Stations And Monitors Unobstructed
		- All Telephones Accessible And Operable
		- Legible Emergency Information Cards Posted Next To Each Telephone
		- Adequate Supply Of Personnel Protection Gear
		- Adequate Supply Of Spill Control Equipment
C.	Tank Systems	- Inspect Tank Exterior For Cracks, l Leaks, Discoloration, Weld Defects, Unsatisfactory Condition Of Rivets, And Obvious Deformations

Table F-2: Continued

Element		Item of Concern	
		-	Check Stationary Pump Seals And Gaskets Of Leaks And Deterioration
		-	Inspect Piping And Valves For Leaks, Corrosion, Proper Insulation Or Other Covering To Protect From Damage
		-	Tank Overfill Alarm And Level Monitors Operable
		-	Tanks, Pipes And Valves Properly Marked
		-	Check Containment Basin And Sumps For Signs Of Spillage and Water Accumulation
		-	Operator Log Book Up-To-Date
		-	Check Carbon Air Pollution Control Canisters For Proper Functioning, Obstructions, Proper Valve Sequencing, And Signs Of Organic Contaminant Breakthrough
		-	Integrity Of Grounding Cables, Clamps, And Indicator
	Lights		
		-	Check Flame Arrestors, Conservation Vents, and Emergency Vents For Obstruction, Deterioration, Or Damage.
		-	Check Tank Monitoring/Control Devices (E.G., Tank Level Monitors, Containment Sump Floats, High/Low Level Alarms, High/Low Pressure Switches and Alarms, Nitrogen Blanket Supply System In Accordance With Manufacturer's Recommendations To Ensure Safe and Reliable Operations
D.	Container Storage	-	Labeling And Structural Integrity Of Drums And Other Containers
		-	Containment structure free of cracks, gaps, etc.
		-	Accumulated/spilled waste or precipitation

Table F-2: Continued

Element	Item of Concern
	- Rolloff tarp covering in place except when solids being added
	- Rolloff unit free of damage of leaks
	- Integrity Of Grounding/Bonding Cables, Clamps, and Indicator Lights
	- Fork Lifts Operational and Free Of Residue Or Other Accumulation of Hazardous Waste

Table F-3: List of Vehicle Loading/Staging Areas

Name of Unit/ 1 Reference Drawing		Location	Type of Activity (Bulk/Container)	Containment [1,2] Volume (gals)	Floor [3] Construction
I.	RCRA-REGULATED VEHICLE LOADING/UNLOADING AND STORAGE AREAS [4]				
1.	Existing Truck Unloading Area (Unit Q)	Eastern end of Outdoor Drum Storage Area (Unit R1)	Drums (to staging/bays)	27488	Concrete
2.	Existing Bulk Unloading Area (Unit Q1)	Eastern end of Outdoor Drum Storage Area (Unit R1)	Rolloffs (Drums From Unit Q Dumped Into Rolloffs Staged Along Southern Wall)	27488	Concrete
3.	Rail Car Loading/ Unloading Area (Unit 13)	East of Ingitable Liquid Tank Farm (Unit 16)	Bulk (to/from tanks & Bulk Highway Vehicles) Drums (Pumped to/from Railcars While On Flatbed Trucks)	34370	Concrete
4.	Ignitable Tank Truck Offloading (Unit 15)	East of Ignitable Liquid Tank Farm (Unit 16)	Bulk (to/from tanks) Drums (From Flatbed Trucks To Tanks)	14094	Concrete
5.	Ignitable Tank Truck Staging (Unit 59)	Adjacent to Proposed Ignitable Bulk Storage Tank Farm (Unit 16)	Bulk ignitable staging	16120	Concrete
6.	Approved Truck Loading Dock (Unit V)	Western end of Outdoor Drum Storage Area Expansion (Unit R2)	Drums (from staging/bays)	27488	Concrete
7.	Listed Waste Loading/Unloading Unit X	East of Listed Waste Storage Tanks (Unit Y)	Bulk (to/from tanks)	7050	Concrete
8.	Proposed Truck Pad (Unit 62)	North of Building 26	Containers in Box Trailers	21810	Concrete
9.	Existing Bulk Storage Pad (Unit B)	Along Eastern Fence Line	Rolloffs	16410	Concrete

Table F-3: List of Vehicle Loading/Staging Areas

Name of Unit/ Reference Drawing	Location	Type of Activity (Bulk/Container)	Containment [1,2] Volume (gals)	Floor [3] Construction
I. RCRA-REGULATED VEHICLE LOADING/UNLOADING AND STORAGE AREAS (CONTINUED)[4]				
10. Existing Truck Storage Pad Unit C	Along Eastern Fence Line	Staging For Tank Trucks and box Trailers	17240	Concrete
11. Truck to Truck Staging/Transfer Area Unit W	West of Outdoor Drum Storage Area Expansion (Unit R2)	Bulk Tanker and Box Trailer Staging	44359	Concrete
12. Building 25 Truck Pad Unit 67	Northeast of Building 25	Box Trailer		Concrete
13. Truck Loading/ Unloading pad Unit 69	North of Unit 22	Bulk Tanker and Rolloffs		Concrete
II. NON-RCRA REGULATED VEHICLE LOADING/UNLOADING AND STORAGE AREAS [4]				
1. Concrete Pad Units J1 & J2)	Adjacent to Receiving Sump Nos. 1 – 4	Bulk (to sumps) Drums (to sumps)	1069	Concrete
2. Building 1 (Unit F3)	Inside Process Building 1 (Unit F)	Bulk (to reactor) Drums (to reactor or bays)	17166	Concrete
3. Fuels Blending Crushed Drum Rolloff Unit 60	North of Building 43, Under Canopy	Rolloff	1988	Concrete
4. Proposed Drum Crushing & Compaction Area Unit T	South of Outdoor Container Storage Area Expansion (Unit R2), Under Canopy	Dump Trailer/Rolloff	2854	Concrete

(continued)

Table F-3: List of Vehicle Loading/Staging Areas

	Name of Unit/ Reference Drawing	Location	Type of Activity (Bulk/Container)	Containment [1,2] Volume (gals)	Floor [3] Construction
5.	Building 2 Unit G3	Inside Process Building 2 (Unit G)	Sludge Rolloff Bulk (From Drums To Bulk Transporters). Bulk (To Reactor Drums (To Reactor)	2616	Concrete
6.	Building 3 Rolloff Storage Unit Z1	Inside Process Building 3 (Unit Z)	Sludge Rolloff	14697	Concrete
7.	Truck Sampling Pad Unit D	East of Building 1	Bulk Tankers/ Rolloffs for Sampling	1481	Concrete
8.	Truck Scale Unit 14	South Of Tank Farm (Unit 16)	Bulk Tankers/ Rolloffs For Weighing		Concrete
9.	Non-Hazardous Bulking Area Units S	South Of Outdoor Container Storage Area Expansion (Unit R2)	Non-Haz Drum (Bulking Into Rolloffs)		Concrete

Notes:

1 Secondary containment volumes are taken from the referenced drawings; backup calculations are provided in Appendix F-9.

2 The expected rainfall from a 25-year, 24-hour rainfall event in the Chicago, IL area is between 4 and 5 inches. All outdoor loading/unloading/staging areas are equipped with 6-inch high berms to prevent surface water run-on into the unit. These berms should provide adequate barrier to prevent surface water run-on a 25-year 24-hour storm event from entering the loading/unloading area.

3 All existing and approved loading/unloading/staging areas are (or will be, in accordance with the compliance schedule in the November 1993 RCRA Part B License) coated with a sealant material which is compatible with materials to be handled in that area. All newly proposed truck areas shall alos be coated. Refer to Section D of the Request for Modification for coating Information.

Table F-4: Protective Equipment Guide 1,2

OPERATIONS	GLOVES 3	BOOTS 4	APRON 5	FULL BODY COVERALL	SAFETY GLASSES	SPLASH GOGGLES	FACE SHIELD	RESPIRATORY PROTECTION 7		
								1/2 MASK RESPIRATOR	FULL FACE RESPIRATOR	SCBA OR AIR W/ESCAPE
Obtaining samples from open surface tanks with still surfaces, or from drums.	R	R	R			R	SS	SS	SS	SS
Obtaining liquid samples from open surface tanks with agitation of liquid.	R	R	R			R	SS	SS	SS	SS
Obtaining samples from pressurized systems pH neutral	R	R	R			R	R	SS	SS	SS
Obtaining samples from pressurized systems, pH 0-3 11-14,	R	R		R			R		R	R
Loading bulk chemicals into open containers or tanks, pH neutral.	R	R	R			R	R	SS	SS	SS
Loading bulk containers into open containers or tanks, pH 0-3, 11-14	R	R		R			R		R	R
Connecting/disconnecting chemical transfer ines, pH 0-3, 11-14	R	R		R		R	R	SS	SS	SS
Connecting/Disconnecting chemical transfer lines, pH 0-3, 11-14.	R	R	R	R			R		R	R
Consolidating lab pack materials	R	R		R					R	R
Repacking lab pack materials	R	R		R	R	SS	SS		R	R
Pumping Chemicals, pH neutrel	R	R		R		R	R	SS	SS	SS
Pumping Chemicals, pH 0-3, pH 11-14	R	R	R	R			R		R	R
Tank Entry and cleaning	R	R		R						R
General Warehousing operations	R			Work Uniform	R					

(CONTINUED)

Key: R = Required

SS = Substance Specific — May be required at the discretion of the Health & Safety Manager depending upon the chemical and/or physical properties of the waste being handled.

Table F-4: Continued

(1) The personal protective equipment guide provides information to enable the user to select the appropriate compliment of protective equipment to be used in hazardous waste operations at clean harbors of Chicago. Due to the variety of waste streams which will be handled at the facility the chart does not provide specific materials of which the protective equipment must be constructed. It is up to the user to consult the Clean Harbors Personal Protective Equipment and Respiratory Protection programs to determine which fabrics and material are suitable for use with each specific waste stream to handled and/or treated.

(2) The standard work equipment issued to and required of all employees involved in waste handling operations includes: (I) Company issued work uniform; (ii) hard hat; (iii) steel-toed, rigid-soled work shoes; and (iv) safety glasses.

(3) Gloves – Gloves for general warehousing operations not involving contract with chemicals or waste materials will be leather gauntlet type gloves.

Gloves used for chemical handling operations will be constructed of a material suitable for the chemical being handled. All chemical resistant gloves will be worn in layers with a latex inner glove being worn under the chemical resistant outer glove.

(4) Boots – Boots will be selected with chemical resistance and physical strength as primary considerations. Steel toe shoes or boots shall be worn at all times by all employees when in active operations areas of the facility.

(5) Apron – Chemical resistant aprons will be selected with chemical resistance and physical strength as primary considerations.

(6) Full Body Coveralls – Full body coveralls will be selected based upon the chemicals, which the employee must be protected from. Physical strength is also factored into the selection. A Company supplied work uniform, hard hat, and steel-toed shoes or boots will be worn under the coveralls.

(7) Respiratory Protection- The specific type of respiratory protection to be used for each waste handling operation must be selected in accordance with the procedures contained in the Clean Harbors Respiratory Protection Program.

Clean Harbors Services, Inc.
Daily Inspection Report

Date _______________

Time _______________

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCEPT - ABLE	
I. SECURITY DEVICES 1. Perimeter fence & gate - Inspect entire perimeter For breaches or damage			
2. Gates - Check for proper gate lock Function			
3. Warning & exit signs - Check for presence of warning Signs			
4. Lighting System - Check lights for operability			
II. EMERGENCY EQUIPMENT 1. Protective Gear (e.g. Helmets, face Shields, Goggles, Boots, Gloves, Acid Resistant Clothing, Disposable Suits, Disposable Bags) - Check accessibility - Check for adequate supply - Check for deterioration, damage			
2. Breathing Apparatus - Check for accessibility - Check for adequate supply, full Charge on canisters and all air tanks - Check for deterioration damage			
3. First Aid Kits - Check for Accessibility - Check for adequate supply			

(Revised 10/26/95)

ITEM		A	B	COMMENTS
	DESCRIPTION	Acceptable	Unacceptable	
II 4.	Safety & Emergency Equip. (Cont.) Emergency Showers - Check that units activate and shut off properly - Check Accessibility			
5.	Internal/External Communication Phone and Radios - Check for accessibility - Check for operations			
6.	Fire Extinguishers - Check to ensure access to units is not Blocked			
7.	Fire Suppression System (Monitors, Pull Stations, Alarms) - Check for accessibility			
8.	Absorbent Supply - Check for adequate supply			
9.	Recovery Drums - Check for adequate supply			
10.	Emergency and Decontamination Equipment - Check accessibility - Other Check for adequate supply - Check for deterioration/damage			
11.	Respirators and Cartridges - Check for adequate supply			
12.	Fire Suppression System - Verify lack of combustible material And arrangement of the room (e.g., unobstructed aisles) a. Shed west of truck scale, b. Shed at northeast corner of Tank Farm; and c. Shed east of Unit 61 d. Rooms (2) in northwest Unit 23			

 (Revised 10/26/95)

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCEPT - ABLE	
III. TANK FARM INSPECTION 1. Storage Tank Containment Areas - Check for evidence of spilled material - Check for cracks and gaps in, or damage to, containment base sumps and drains, and coatings - Check for evidence of seepage outside containment (e.g., discoloration) - Check for debris, cleanup residue, improperly stored equipment			
2. Storage Tanks Inspect tank exterior for cracks, leaks, discoloration and obvious deformation			
3. Access Hatches, Vents, and Ports - Checks for leaks - Checks for damage			
4. Fill/Drain and Overflow Piping - Inspect piping for leaks - Inspect valve seals for leaks - Check that handles are not bent or damaged - Inspect heat tracing lines for signs of deterioration/damage			
5. Liquid Level Monitors - Check if operator log book is up to date - Check tank liquid level indicators for operability - Check containment sump liquid level indicators for operability			

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCPT - ABLE	
III. TANK FARM (CONTINUED) 6. All Ancillary Equipment - Visual inspection for leaks and corrosion			
7. Tank Truck Loading /Unloading Areas - Check for evidence of spills or releases in unloading areas - Inspect hoses for deterioration or leakage - Check for removal of spill absorbent and cleanup materials - Check sumps, gratings, and curbs for cracks or other damage - Inspect hose couplings and valves for leakage - Inspect containment system for deterioration - Inspect grounding system equipment for operability			
8. Carbon Absorption Canisters - Check that units are functional and that valves are positioned properly - Check carbon bed for organic breakthrough -			

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCPT - ABLE	
IV. CONTAINER STORAGE AREAS 1. Container Storage Areas - Check for evidence of spilled material on slab, ramps, drains and sumps - Check for removal of absorbent materials and cleanup rags - Check for cracks and gaps in, or damage to, containment bases sumps, drains, and coatings - Check for erosion, uneven settlement, etc. - Check for corrosion of grating over drains and sumps			
2. Stored Containers - Check for drums being in good condition - Check that drums are not open - Check for proper placement - Check adequacy of aisle space - Check height of stacks - Check storage capacity not exceeded - Check for proper labeling			
3. Container Loading/Unloading Areas - Check for damaged containers - Check for evidence of spilled material on slabs and ramps used - Check for removal of used absorbent and cleaning materials - Check for prompt container removal from receiving area - Inspect grounding system equipment for operability - Check forklifts for proper operation and accumulation of residue (EACH OPERATIONG SHIFT)			

Clean Harbors Services, Inc.
Daily Inspection Report

Date __________________

Time ________________

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCEPT - ABLE	
IV. CONTAINER STORAGE AREAS 4. Building 42 - Compactor - Check for evidence of spills - Check for deterioration of floor and unit - Check for proper functioning of unit - Check for removal of used absorbent and cleaning material - Inspect grounding system			

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Signature of Inspector

(Revised 08/07/97)

CLEAN HARBORS SERVICESS, INC.
ANNUAL INSPECTION REPORT

DATE____________

TIME____________

ITEM			COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCPT -ABLE	
I. SAFETY & EMERGENCY EQUIPMENT 1. Fire Suppression System (Monitors, Pull Stations, Alarms) - Test foam supply			
2. Inspect and test the following in accordance with the requirements protocols, and frequencies specified in the current editions of NFPA 11, NFPA 16, NFPA 16A, NFPA20, NFPA 22, NFPA 24, and NFPA 25 - Water based fire suppression systems including sprinkler, monitors, foam water sprinkler systems, foam water deluge systems, foam maker suppression systems, fire pumps, water supply, storage tanks, underground piping, and foam concentrate supply and proportioning systems			

(Revised 10/26/95)

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCPT - ABLE	
I. SAFETY & EMERGENCY EQUIPMENT (CONTINUED) 4. Foam Proportioning System - Inspection by manufacturer's representative in conjunction with foam concentrate testing to verify that there is no unusual interaction between the foam concentrate and foam proportioning equipment. - Report degradation to IEPA - Make arrangements to resolve any deficiencies for both the short term and long term operation of the facility			
5. Comparison to Acceptance Test Data - Compare future test results for all fire protection equipment - And systems to the data obtained during the 1995 acceptance testing, and document - Report discrepancies to IEPA - Resolve the discrepant condition or provide an explanation as to the nature of the discrepancy and proposed solution, and report to IEPA			

(Revised 10/26/95)

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCPT - ABLE	
II. TANK FARM 1. Storage Tanks - Check tank integrity			
2. All Ancillary Equipment - Conduct leak test or approved integrity assessment			
3. Flame Arrestors, Conservation Vents, and Emergency Vents - Check for obstruction or other damage			

Signature of Inspector

(Revised 10/26/95)

Clean Harbors Services, Inc.
Monthly Inspection Report

Date __________________

Time ________________

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCEPT - ABLE	
I. SECURITY DEVICES 1. Lighting System (Emergency) - Check lights for operability			
II SAFETY & EMERGENCY Equipment 1. Breathing Apparatus - Check for function			
2. Water Lines - Check for adequate pressure			
3. Fire Extinguishers - Check pressure gauge for full charge indication - Check inspection tag to insure fire service is up-to-date - Check seal to ensure no one has used extinguisher			
4. *Fire Suppression System* (Monitors, Pull Stations, Alarms) - Test fire alarm warning system			
5. Internal (Phone or Radio)/External (Phone) Communications Systems - Test cellular phones			

(Revised 10/26/95)

ITEM	A	B	COMMENTS
DESCRIPTION	ACCEPT-ABLE	UNACCPT - ABLE	
III. TANK FARM 1. Control/Monitoring Equipment - Maintenance Inspection ■ Tank Level Monitors ■ Containment Sump Floats ■ High/Low Level Alarms ■ High/Low Pressure Switches and Alarms ■ Nitrogen Blanket supply System (PER MANUFACTURER'S RECOMMENDATION BUT AT LEAST MONTHLY)			
IV. CONTAINER STORAGE AREAS 1. Container Storage Areas - Check for condition and availability of over pack containers			
2. Containers from the Pegasus System - Inspect ten (10) Consecutive containers prior to crushing to insure that they are RCRA empty. (MONTHLY OR PER THE SCHEDULE SUBMITTED AS PART OF THE COMMENTS ON THE DRAFT PERMIT DATED 6/3/95.)			

Signature of Inspector

(Revised 08/08/95)

SECTION G
CONTINGENCY PLAN

G-1 General Information

Clean Harbors Services, Inc. (CHSI) is a hazardous waste treatment and storage facility. The name, facility address, EPA ID Number, and owner/operator of the facility is:

Facility Name:	Clean Harbors Services, Inc.
Facility Address:	11800 South Stony Island Avenue Chicago, Illinois 60617 (773) 646-6202 (Business Hours) (773) 646-6805 (Non-Business Hours)
EPA ID Number:	ILD00608471
Owner/Operator:	Clean Harbors Services, Inc. 11800 South Stony Island Avenue Chicago, Illinois 60617

CHSI treats inorganic aqueous-based waste streams in an onsite waste water treatment system and stores and consolidates containerized hazardous wastes, including lab packs, which are shipped to approved offsite treatment and disposal facilities. Under its current RCRA Part B License Application, CHSI is authorized to conduct other hazardous waste operations including: storage and treatment of listed hazardous wastes (F- and K-codes); hazardous waste fuel blending/strorage; expanded lab pack capabilities; drum crushing; hazardous waste paint can and paint related material compacting; hazardous waste shredding and metalwashing; rail car transfer operation; cylinder operations; hazardous waste lamp crushing and non-hazardous waste storage and consolidation. Under CHSI's Request for Permit Modification, CHSI received authorization to incorporate and operate select hazardous waste management units located at the CWM Chemical Services, Inc. (CWMCSI) hazardous waste facility located adjacent to the CHSI facility. A site plan for the facility (CHCI Dwg. No 4204B, Sheets 1 through 3), which includes existing, proposed/not yet conducted, and proposed hazardous waste units, is presented in Appendix G-1.

CHSI has developed this Contingency Plan ("the Plan") in accordance with the requirements of 35 IAC 724 Subpart D. The purpose of the Plan is to minimize hazards to human health or the environment of hazardous waste or hazardous waste constituents to air, soil, or surface waters. The actions described in this Plan must be implemented immediately whenever such releases could threaten human health or the environment. The Plan will be reviewed, and immediately amended, whenever:

- The facility permit is revised;
- The Plan fails in an emergency:
- CHSI implements a design, construction, operational, or maintenance change which materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the nature of the required response;
- The list of Emergency Coordinators changes; or
- The list of emergency equipment changes.

Up-to-date copies of the revised Plan will be maintained on file at the facility and distributed to the Emergency Coordinators identified in Table G-1 and all emergency response agencies identified Table G-3 of the Plan.

G-2 Emergency Coordinators 724.152(d), 724.155

The CHSI personnel listed in Table G-1 have been designated to act as Emergency Coordinators.

At least one of the Emergency Coordinators will, at all times, be either on the facility premises or on call and available to respond to an emergency by reaching the facility within a short period of time. The Emergency Coordinators are responsible for coordinating all emergency response measures. The Emergency Coordinators are thoroughly familiar with all aspects of the Contingency Plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, the Emergency Coordinators have the authority to commit the resources needed to carry out the Contingency Plan. If none of the designated Emergency Coordinators are on the premises, the on-duty Operations Manager will be responsible for contacting the Emergency Coordinator. The Operations Manager will assume the duties of the Emergency Coordinator until such time as one of the designated Emergency Coordinators has arrived at the scene.

G-3 Implementation 724.152(a), 724.156(d)

The Contingency Plan will be implemented whenever:

1. There is a fire;
2. There is an explosion;
3. An area of the facility is evacuated, or;
4. A spill of one (1) pound or more of hazardous waste occurs.

For the purpose of this Contingency Plan, the term "spill" shall mean any unplanned, uncontrolled release of hazardous waste to the environment (air, water, soil, or stationary secondary containment device such as a dike or concrete floor). Examples of such spills include a leaking drum or pipeline, an overfilled tank, or a ruptured hose. The term "spill" shall not include: (I) "de minimus" amounts (e.g., drips from hoses or sampling devices) encountered during routine waste handling activities; or (ii) controlled accumulation of hazardous waste in a containment device (e.g., bucket, drip pan, scupper etc.) used to collect and control the release of waste during routine processing or maintenance activities such as draining hoses or disassembling and repairing a pump.

Any implementation of the contingency plan requires notification of the Illinois Environmental Protection Agency (IEPA) within 24 hours. Refer to Section G-4a below for specific notification procedures.

G-4 Emergency Response Procedures

G-4 (a) Notification to Federal, State, and Local Officials

(i) General

Whenever there is an imminent or actual emergency situation, the Emergency Coordinator shall immediately:

1. Notify affected facility personnel verbally or by using the facility intercom system;

2. Activate internal facility alarms, if necessary, and;

3. Contact federal/state/local agencies having designated response roles for assistance, if necessary.

If the Emergency Coordinator's assessment of the situation determines that the facility has experienced, or is likely to experience, a release, fire, or explosion which could threaten public health, safety, or welfare, or the environment, or that external emergency response assistance is required, the Emergency Coordinator shall immediately notify the Chicago Fire and Police Departments and the IL Emergency Management Agency.

- Chicago Fire Department
  911
- Chicago Police Department
  911
- IL Emergency Management Agency
  (800) 782-7860

The Chicago Fire Department shall function as the primary response agency in all emergency situations. The Emergency Coordinator shall be available to assist the Chicago Fire Department and other local/state officials in deciding whether local areas should be evacuated.

The reporting requirements for spills/leaks/releases at the facility are governed by three separate regulatory programs:

1. IAC 724.269(d);
2. CERCLA National Contingency Plan (40 CFR 300), and;
3. SARA Emergency Planning and Notification (40 CFR 355).

In accordance with 35 IAC 724.269 (d), CHSI shall notify the IEPA of any leak or spill of hazardous waste in excess of one (1) pound.

In accordance with the terms of the National Contingency Plan (NCP), 40 CFR Part 302, CHSI will notify US EPA and IL EPA undertake appropriate response actions in response to any reportable release or threat of release of oil and hazardous material to the environment. A release shall be considered "reportable" and the Contingency Plan shall be enacted, if the amount of the release exceeds the Reportable Quantity (RQ) for that material as listed in the Table 302.4, the List of Hazardous Substances and Reportable Quantities (CERCLA List) codified at 40 CFR Part 302. A reportable release will be reported to the IL EPA and the US EPA National Response Center as soon as possible, but not more than (2) hours after obtaining knowledge or a release or threat of a release.

- US EPA National Response Center
  (800) 424-8802

The release shall also be reported to the Chicago Fire Department and the IL Emergency Management Agency.

Notification under SARA S304 is required when: 1) a CERCLA "hazardous substance" [Listed in 40 CFR Part 302, Table 302.4] or a SARA "extremely hazardous substance" [listed in 40 CFR Part 355, Appendix A] is released in an amount in excess of the RQ; **AND** 2) When said release threatens the environment or public beyond the boundaries of the site. For any release which is reportable under SARA, a verbal notification will be made to the State Emergency Response Commission SERC and the Local Emergency Response Planning Commission [LERPC] in addition to the US EPA National Response Center. The IL Emergency Management Agency serves as the SERC; the Chicago Fire Department functions as the LERPC.

In the event of an incident, which is reportable under SARA (i.e., a release or other event which could possibly impact human health or the environment outside the facilities boundaries), CHSI shall, as necessary, notify the following nearby industrial facilities which are, or may be, potentially affected by the incident:

Land and Lakes Landfill
2000 E. 122nd Street
(773) 646-1138

Paxton Landfill
Stryker International
12201 S. Oglesby
(773) 646-0981

Steel Coil Dockside Processors
11828 S. Stoney Island Avenue
(773) 646-4747

Emesco Inc.
12100 S. Stony Island Avenue
(773) 646-2100

The Emergency Coordinator shall be responsible for deciding which of the facilities are to be notified based on the specific circumstances (e.g., wind direction in the event of an air release) of the emergency event.

(ii) Content of Notification

In general, when notifying external emergency response authorities, the caller shall provide the following information to the extent known at the time of the report:

- The name and telephone number of the individual making the report.
- The name and address of the facility;
- The time, type (e.g., release, fire), and duration of the incident/release;
- The chemical name(s) and quantity of material (s) involved:
- The extent of injuries, if any;
- The possible hazards to public health, safety, or welfare, or the environment outside the facility.

In addition, if the release is being reported in accordance with SARA requirements, the following information is to also be provided to the extent known at the time of the report:

- Any known or anticipated acute or chronic health risks associated with the emergency, and where appropriate, advice regarding medical attention necessary for exposed individuals;

- Proper precautions to take as a result of the release, including evacuation; and

- The names and telephone number of the person or persons to be contacted for further information.

Within fifteen (15) days of any release requiring the implementation of the Plan, CHSI shall submit to IEPA a written follow-up report that will include:

1. The name, address, and telephone number of the owner or operator;
2. The name, address, and telephone number of the facility;
3. The date, time, and type of incident (e.g., fire, explosion);
4. The name and quantity of material (s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to public health, safety, welfare, or the environment, as applicable;
7. The estimated quantity and the disposition of recovered material that resulted from the incident;
8. All differences between the emergency response activities actually taken and those prescribed in the Contingency Plan and the reasons for each such difference: and
9. Proposed measures to prevent similar incidents in the future.

For release incidents reported under SARA, CHSI should, as soon practicable after the release (but no more than seven (7) days later), submit a written follow-up report to the LERPC and SERC. The report shall include items 1 through 9 above, and:

10. A description of the actions taken to respond to and contain the release;
11. Any known or anticipated acute or chronic health risks associated with the release.
12. Where appropriate, advise regarding medical attention necessary for exposed individuals.

G-4b Identification of Hazardous Materials 724.156(b)

Whenever there is a release, fire, or explosion, the Emergency Coordinator will immediately take all appropriate steps to determine identify the character, exact source, amount, and extent of any released materials. The determination may be made by visual observation, discussions with other CHSI personnel, a review of facility records and/or manifests, or by chemical analysis.

As part of the records maintained by the facility, CHSI shall keep a daily written inventory for each hazardous waste container storage area. The log will include, by storage bay, the number of containers and the general waste category stored in the bay.

G-4c Assessment 724.156 (c) and (d)

The Emergency Coordinator is responsible for assessing any possible hazards to human health or the environment that may result from the release, fire or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water run-offs from water or chemical agents to control fire and heat-induced explosion).

In assessing the toxic or hazardous nature of the material(s) involved in the incident, the Emergency Coordinator may rely on operational experience and/or technical information provided by Material Safety Data Sheets (MSDS's) manufacturer's literature, or standard reference books such as Sax Chemical Dictionary or Patty's Industrial Hygiene and Toxicology. The Clean Harbors Corporate Health and Safety staff is also available for consultation on a 24-hour basis. In addition, through the Corporate H&S staff, the Emergency coordinator has access to a computerized MSDS data system that includes detailed information on over 10,000 chemical compounds.

In order to assess the potential hazards posed by a release of hazardous materials to the air, the Emergency Coordinator may rely on a February 1992 report conducted on CHSI's behalf by Carlson & Associates. The study includes air pollution modeling of potential hazards that may result from a release, fire or explosion at the facility. The study also includes an estimation of the quantities and types of gases that could be generated. The modeling also assessed the effects of wind speed, atmospheric stability class, and atmospheric temperature on ambient air quality levels. A copy of the report is included as Appendix G-2 Also included in Appendix G-3 is a copy of the Carlson study final health-based "trigger" levels for notifying local officials in the event of a spill or release at the facility.

In addition, the Emergency Coordinator may rely on the general description of the anticipated hazards from the waste material and raw treatment chemical stored/used at the facility is presented in Appendix G-4.

G-4d Control Procedures

Any employee who observes, discovers or otherwise detects an emergency situation involving a fire, explosion or release is to follow the general emergency response procedures:

1. Immediately notify the Emergency Coordinator.

2. Alert other personnel in adjacent areas to potential hazards.

3. Render assistance to personnel that may be involved in the emergency and remove them from further exposure or injury.

4. The Emergency Coordinator will, depending on the magnitude of the situation, call for local emergency assistance.

5. In the event of a fire, spill, release, or activation of an automatic protection device such as a high level alarm or foam water sprinkler, facility personnel in the response area are immediately halt all process activities, and to the extent that it is safe to do so, implement initiate shut down procedures shut as closing open containers, shutting down mechanical equipment or electrical devices, etc. The personnel shall then quickly and calmly exit the workplace.

6. If general evacuation of the facility is required, all plant operations are to immediately cease. All personnel shall, to the extent that it is safe to do so, implement initiate shut down procedures shut down procedures as described in Number 5 above, and then quickly and calmly exit their workplace, evacuate the facility via the prescribed evacuation routes, and assemble in the designated emergency assembly area outside the main entrance to the facility.

7. Facility personnel should only attempt to handle fires or other emergencies in their incipient stage. Under no circumstance, however, should any employee attempt to handle an emergency situation alone.

8. Following an emergency, facility operation in affected area(s) of the facility will not resume without the approval of the Emergency Coordinator.

For all incidents, a Site Specific Health & Safety Plan (SSH&SP) shall be developed in consultation with company H&S personnel prior to undertaking any emergency response containment or clean up activities. The SSH&SP defines the specific procedures to be followed during the response action, and the Personal Protective Equipment (PPE) to be worn by response personnel. The SSH&SP shall require that appropriate spill response equipment is used, and that one ore more fire extinguishers is on-hand throughout the course of the response action.

G-4d (1) Fire and /or Explosion

In the event of a release of a fire or explosion, the following response procedures shall be followed:

1. The individual discovering the fire is to immediately contact the Emergency Coordinator.

2. Area personnel may attempt to contain fires using the portable fire extinguishers located throughout the facility without taking undue risk of personal injury. Facility personnel should only attempt to handle fires in their incipient stage.

3. If outside firefighting assistance is required, the Emergency Coordinator shall immediately notify the Chicago Fire Department.

   The Chicago Fire Department will be notified for any fire.

G-4d (2) Release to Air, Soil, or Surface Water

In the event of a release of hazardous waste to the air, soil or surface water, other than from a fire or explosion, the following procedures shall be followed:

1. The individual discovering the release is to immediately contact the Emergency Coordinator.

2. Area personnel shall attempt to contain the release without taking undue risk of personal injury.

3. The Emergency Coordinator shall direct all spill cleanup/containment actions.

4. Absorbent material (speed-dri, 3M pads, etc.) is available throughout the facility for use in containing and cleaning up spills.

5. All contaminated material (i.e., spills debris, spent absorbent) shall be removed and deposited into drums or bulk roll off containers for disposal at an offsite disposal facility.

6. Large-quantity liquid spills shall be collected using portable pumps or vacuum tankers at the direction of the Emergency Coordinator. Special precautions shall be taken to ensure that collected liquids are compatible and will not cause any adverse reactions. Collected liquids will be pumped into the bulk storage tanks or directly onto bulk transport vehicles. Collected solids will be drummed or placed in a roll off container for disposal at an approved offsite facility.

7. In the event that a release or contaminated runoff to Lake Calumet occurs or threatens to occur, CHSI shall utilize the services and equipment of its sister company, Clean Harbors Environmental Services, Inc. (CHESI) to respond. CHESI has been classified as a "Level E" (highest level) Oil Spill Response Organization (ORSO) by the United States Coast Guard (USCG) under USCG regulations promulgated under the Oil Pollution Act of 1990 (OPA-90). As a Level E OSRO, CHESI is equipped with the necessary boats, containment boom, recovery equipment, and trained personnel to respond to a release of oil or hazardous materials to ocean shorelines (inland waterways) and the Great Lakes. CHESI maintains a Chicagoland base of operations, and is listed as an emergency response contractor in Table G-5.

CHSI has developed a Standard Operating Procedure for handling drums and containers which are leaking or undergoing a reaction. The SOP is based on the general response procedures outlined above. In summary, in the event of a spill, leaking container pressurized drum, or reacting contents, CHSI personnel take all appropriate measures to protect the health and well being of employees and the public and to contain and control the released material. Facility management and Emergency Coordinators are trained to: notify on-site supervisors; evaluate the spill from a safe distance; keep unnecessary people away from the release; isolate the area and deny entry; Determine the appropriate level of protection in accordance with established emergency response procedures; eliminate all ignition sources in area; keep all personnel upwind of the release; keep flammable and combustible materials away from the area; monitor the areas for flammable or toxic vapor; bring spill equipment to spill area; and classify the material based on existing on-site information (e.g., GWMPS prequalification information, Material Safety Data Sheets, etc.) and/or using the onsite laboratory for waste characterization.

Specific spill containment and/or cleanup techniques depend on the volume and type of material that is involved. For example, for small solid/dry material spills, the spilled material and any other material, which it has contaminated, is shoveled into an appropriate drum, covered, sealed, labeled, and placed into storage. For a large liquid material spill onto land, the material is contained by creating a dike (using sand, absorbents, etc.) around the liquid and then collected using a vacuum truck or portable pumps. Depending on the volume, the recovered liquids may be laced in a storage tank, or containerized in drums, or directly shipped offsite. Small pools of spilled material can also be collected using absorbent material such as sand or speed-dri.

Any container with questionable integrity (leaking, structural defect, corrosion) is either overpacked or its contents are transferred into a suitable container. However, before any action is taken, compatibility of the waste with the new container is determined. Transfers may be accomplished by dumping, pouring, and pumping the contents from one drum to another. In other cases, the entire drum may be overpacked in a DOT approved salvage drum using a machine, such as a fork-lift to lift the leaking drum and lower it into the overpack or by manual techniques such as rolling the leaking drum into the overpack on the ground at an angle.

Because of possible hazards involved in the opening of reacting or over-pressurized containers, special precautions are taken to protect the personnel opening the container, the personnel in the immediate area, and the equipment in the area. Personnel not actually involved in the opening process are required to situated in a support zone away from the drum. All container-opening procedures are performed within an exclusion zone. Containers that are believed to under pressure, by evidence of bulging, are handled with extreme caution, and when possible, remote equipment is used to open the pressurized container. This equipment shall be sufficient distance away as to protect it from any type of explosion or a protective explosion-proof barrier shall be placed between the drum and equipment.

In the event of a release of a hazardous waste compressed gas to the air, other than a fire or explosion, the following response procedures shall be followed:

1. The individual discovering the release is to immediately contact the Emergency Coordinator.

2. Alert other personnel in adjacent areas to potential hazards.

3. Render assistance to personnel that may be involved in the emergency and remove them from further exposure or injury.

4. If compressed gas release assistance is required, the Emergency Coordinator shall immediately notify ETSC.

G-4d (3) Equipment Failure of Power Outages

The procedures to be followed in the event of an equipment failure or facility-wide power outage include:

1. Immediate shutdown of all related operations;

2. Replace or repair affected equipment;

3. Restart of equipment/operations only at the direction of the Emergency Coordinator.

Note that operations, which are not affected by a power outage, may continue to operate at the discretion of the Emergency Coordinator.

G-4e Prevention of Recurrence of Spread of Fires, Explosions or Releases 724.156 (e)

During an emergency, the Emergency Coordinator will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas of the facility. These measures include, where applicable: stopping material transfer operation; containing and collecting released wastes and contaminated runoff streams; and removing or isolating containers;

If the facility halts operations in response to a fire, explosion or release, the Emergency Coordinator shall monitor for leaks, pressure buildups, or ruptures in valves, pipes, or other equipment, wherever appropriate.

G-4f Storage and Treatment of Released Material 724.156(g)

Immediately after an emergency, the Emergency Coordinator must provide for the treatment, storage, or disposal of recovered waste, contaminated soil or surface water, or any other materials that results from a release, fire or explosion at the facility. CHSI will manage all recovered material as hazardous waste unless analytical results indicate other wise, and will assume the responsibilities of being the waste generator for all materials shipped offsite for treatment or disposal.

G-4g Incompatible Waste 724.156 (h) (1)

No waste that may be incompatible with the released material is to be treated, stored, or disposed until cleanup procedures are completed and waste compatibility has been determined according to in-house waste codes and verified by the sampling and analysis protocol in the facility's Waste Analysis Plan.

Decontamination procedures following a release will include the removal of liquids using potable pumps and/or absorbents and the removal of solids using brooms, scrapers, shovels, or other suitable equipment. If necessary, the area will be rinsed with water (with or without detergent) or other appropriate solvent, which, prior to use, is determined to compatible with the spilled waste(s).

G-4h Post Emergency Equipment Maintenance 724.156 (h) (2)

Immediately following an emergency at the facility, the Emergency Coordinator will provide for the decontamination and/or replacement of all emergency equipment utilized during the response, CHSI shall verbally notify the IEPA that all emergency equipment listed in the Contingency Plan shall be cleaned and fit for its intended use before operations in the affected area(s) of the facility are resumed.

G-4i Container Spills and Leaks 724.152, 724.271

In the event of leak or spill involving containers, the following response measures shall be taken.

1. If the container is found to be leaking, the contents of the container shall be immediately transferred to another compatible container, or the leaking container shall be place into an overpack drum.

2. Spilled/leaking wastes shall be collected and removed using absorbents or other means such as shovels brooms, pumps, etc. All collected materials and spill residues shall be containerized and managed as a hazardous waste unless analytical results indicate otherwise. Under normal circumstances, all spilled materials will be removed within two (2) hours of discovery.

3. In the event that a container inside a lab pack is cracked or broken, the container shall be removed from the lab pack and repacked. Any packing material which becomes contaminated as the result of a cracked/leaking container shall be containerized and manged as a hazardous waste unless analytical results indicate otherwise. Any other container inside the lab pack which becomes contaminated by the spilled material will wiped off and placed into another compatible lab pack.

G-4j Tank System Spills and Leaks

G-4j (1) Tank system Spills and Leakage 724.296

In the event of leak or spill involving the tanks or containment systems at the facility, the following response measures shall be taken:

1. The flow of liquid into the tank system will be immediately halted by shutting down the pumping system. If necessary, the waste liquids in the leaking tank will be pumped into an alternative tank to prevent further flow.

2. Within 24 hours of detecting a leak in a tank system, CHSI will remove as much of the waste as is necessary to prevent further release of waste and to allow inspection and repair of the tank system to be performed.

3. Any material released into a tank containment system will, within 24 hours of the release and to the extent practicable, be pumped back into an alternative tank. Absorbent materials will be available to pick up non-pumpable waste or residue

4. Any tank failure or any release from a tank or containment system, which results in a release of hazardous waste to the environment, will be verbally reported to the Agency within twenty-four (24) hours. A written follow-up report will be submitted to the Agency within thirty (30) days of the detection of the release or leak.

5. All tank repair activities shall comply with the repair requirements of 35 IAC 724.296. Major repairs will be certified as complete by an IL registered professional engineer (PE). The PE certification will be submitted to the IL EPA within seven (7) days after returning the tank system to use.

6. Any tank that is permanently removed from service will undergo closure in accordance with the procedures outlined in the approved Closure Plan presented in Section I of this Application.

G-4j (2) Spills and Leaks from Tanks Containing Particular Chlorinated Dioxins, Dibenzofurans, and Phenols 724.294 (c) (2)

CHSI does not handle hazardous wastes F020, F021, F022, F023, F026, or F027 in any onsite bulk storage tank. Therefore, the requirements for special procedures for removal of these wastes from bulk storage tanks are not applicable.

G-4k Waste Pile Spills and Leakage 724.352, 724.353

CHSI does not operate any waste piles at the site. Therefore, the requirements of Sections G-4k are not applicable.

G-41 Surface Impoundment Spills and Leakage 724.322, 724.327

G-4m Incinerator Spills and Leakage 724.322
G-4n Landfill Leakage 724.152, 724.402 (b)

CHSI does not operate any incinerators or landfills at the site. Therefore, the requirements of Sections G-4k through G-4n are not applicable.

G-5 Emergency Equipment 724.152 (e)

A list of the emergency and safety equipment maintained at the facility, as well as a site map showing the locations of each piece of emergency equipment is presented in CHCI Dwg. No. 4221, Emergency & Safety Equipment Location Plan, which is included in Appendix G-5. The capabilities of the emergency equipment available onsite are summarized in TableG-2.

In addition to the equipment described in Appendix G-5, the General Manager, Laboratory Manager, Operations Manager and each Plant Operator or Maintenance personnel is equipped with the following personal safety equipment:

- 1 pair of Safety Glasses
- 1 pair of Goggles
- 1 pair of neoprene Boots
- 1 Filter Mask
- 1 pair of filters for acid fumes and organic vapors
- Splash suit with hood
- 5 sets of uniforms
- 1 Hard-hat with safety shield

All CHSI laboratory personnel are equipped with the following personal safety equipment:

- 1 pair of Safety Glasses
- 1 Hard-hat with safety shield
- 1 filter mask
- 1 pair of filters for acid fumes and organic vapors

Additionally, disposable plastic gloves, two neoprene aprons, a splash/explosion shield is available in the laboratory for common use.

G-6 Coordination Agreement Requirements 724.137, 724.152 ©

In accordance with 35 IAC 724.137 and 724.152 (c), CHSI will distribute copies of this Contingency Plan to the emergency response organizations noted in Table G-3. In addition, CHSI will, on an annual basis or more frequently as changes in the Plan warrant, sponsor informational meetings at the facility to provide the agencies with the opportunity to tour the facility and discuss emergency response procedures.

Copies of all correspondence related to emergency response coordination agreements between CHSI and the above–noted agencies will be maintained on file at the facility. CHSI will document the refusal of any of these agencies to participate in the emergency response coordination effort. Documentation of CHSI's efforts to enter into coordination agreements with the designated emergency assistance organizations is provided in Appendix G-6.

G-7 Evacuation Plan 724.152 (f)

G-7a Evacuation Decision

The Emergency Coordinator is the sole CHSI representative who has the authority to direct personnel to evacuate the facility. Note that the use of the emergency siren requires employees to immediately exit their work place and proceed directly to the emergency assembly point outside the main entrance gate to the facility.

G-7b Evacuation Signal (s)

The Emergency Coordinator shall activate the emergency notification siren to notify facility personnel of the decision to evacuate. Prior to evacuation, area supervisors must account for all personnel from their respective areas.

G-7c Evacuation Routes

Primary and alternate evacuation routes from each of the operational and support areas are shown in CHSI DWG. No. 4220, Emergency Evacuation Plan, presented in Appendix G-7. After exiting the work place, personnel will assemble at the primary emergency assembly point outside the main facility entrance to await further instructions from the Emergency Coordinator. At the discretion of the Emergency Coordinator, personnel may be directed to the secondary assembly point if weather or other conditions make it unsafe to gather at the primary assembly point.

G-8 Required Reports 724.156 (I) and (j)

CHSI will document in the facility's operating record the time, date, and details of any incident that requires implementation of the Contingency Plan. CHSI will also document any spill or leak of less than 1 pound, which does not require implementation of the Plan.

Following an event which requires implementation of the Contingency Plan, CHSI shall verbally notify the IEPA that all emergency equipment listed in the Contingency Plan shall be cleaned and fit for its intended use before operations in the affected area (s) of the facility are resumed.

Within fifteen (15) days after any incident which requires implementation of the Contingency Plan, a written report of the incident will be submitted to the Division of Land Pollution Control (DPLC) Compliance Section. The report will include the information in Section G- described previously 4 (a) (ii).

AMENDMENT TO CONTINGENCY PLAN (Amendment)

This amendment is added to the Contingency Plan for emergency situations associated with slope failure of the Paxton landfill and its effect on the CHSI facility. Any other emergency situations which cause the Contingency Plan to be implemented will be handled as stated in the Contingency Plan.

IMPLEMENTATION

The Amendment will be implemented upon notification of a:

1) "Stress fracture" indicating slope failure within 4 to 5 days.

2) "Vertical offset" indicating slope failure within hours

3) Slope failure.

Upon implementation of the Amendment, the requirements of the following sections of the Contingency Plan shall be utilized:

G-2 Emergency Coordinators

G-5 Emergency Equipment

G-6 Coordination Agreement Requirements

G-8 Required Reports

Upon implementation of the Amendment, the following sections shall be utilized:

G-4 Emergency Response Procedures

G-4(a) Notification to Federal, State and Local Officials

Section G-4 (a) of the Contingency Plan shall be utilized.

G-4 (b) Identification of Hazardous Materials

Whenever CHSI is notified of a stress fracture, vertical offset or slope failure, the Emergency Coordinator will identify the character and amounts of waste stored in each hazardous waste storage area from records maintained by the facility.

G-4 © Assessment

The Emergency Coordinator is responsible for assessing any possible hazards the slope failure could cause to human health or the environment from the slope failure itself and to wastes stored at the facility. Whenever CHSI is notified of a stress fracture, vertical offset or slope failure, the Emergency Coordinator will halt all waste receipts at the facility. Upon notification of a stress fracture, the Emergency Coordinator will assess removal of waste from the hazardous waste storage areas in Units 59,15,13,16,61,62,26, and 25.

G-5 Control Procedures

In the event of a stress fracture, emergency spill equipment located in the control building will be relocated to west f Unit R1 just inside the perimeter fence. The Emergency Coordinator will also arrange for removal of waste from the hazardous waste storage areas listed in Section G-4c of the Amendment to the extent it is safe to do so. Wastes will be shipped off-site or to other hazardous waste storage units at the facility. Priority for waste removal will be given to Units 59,15,13 and 16. The number of employees at the facility will be limited to those preparing for slope failure to mimimize hazards to human health.

Any employee who observes, discovers or otherwise detects an emergency situation involving a stress fracture, vertical offset or slope failure is to follow the general emergency response procedures:

1) Immediately notify the emergency coordinator.

2) Alert other personnel in adjacent areas to potential hazards.

3) Render assistance to personnel that may be involved in the emergency and remove them from further exposure or injury.

4) The Emergency Coordinator will, depending on the magnitude of the situation, call for local emergency assistance.

5) In the event of a vertical offset of slope failure, facility personnel in the response area are to immediately halt all process activities, and to the extent that is safe to do so, implement-initiate shutdown procedures such as closing open containers, shutting down mechanical equipment or Electrical devices, etc. The personnel shall then quickly and calmly exit the workplace.

6) If general evacuation of the facility is required, all operations are to immediately cease. All personnel shall, to the extent it is safe to do so, implement/initiate shutdown procedures as described in Number 5 above, and then quickly and calmly exit their workplace, evacuate the facility via the prescribed evacuation routes, and assemble in the designated emergency assembly area west of Unit R1 outside the existing perimeter fence.

7) Facility personnel should only attempt to handle fires or other emergencies in their incipient stage. Under no circumstance, however, should any employee attempt to handle an emergency situation alone.

8) Following an emergency, facility operation in affected areas of the facility will not resume without approval of the Emergency Coordinator.

For all incidents, a site Specific Health and Safety Plan (SSH&SP) shall be developed in consultation with company H&S personnel prior to undertaking any emergency response containment or cleanup activities. The SSH&SP defines specific procedures to be followed during the response action, and the Personal Protective Equipment (PPE) to be worn by response personnel. The SSH&SP shall require that appropriate spill response equipment be used, and that one or more extinguishers are on-hand throughout the course of the response action.

G-4d (1) **Fire and/or Explosion**

G-4d (2) **Release to Air, Soil or Surface Water**

G-4d (3) **Equipment Failure of Power Outages**

G-4e **Prevention of Recurrence or Spread of Fires, Explosions or Releases.**

G-4f **Storage and Treatment of Released Material**

G-4g **Incompatible Waste**

G-4h **Post Emergency Equipment Maintenance**

G-4i **Container Spills and Leaks**

G-4j **Tank Spills and Leaks**

G-4k **Waste Pile Spills and Leakage**

G-4l Surface Impoundment Spills and Leakage

G-4m Incinerator Spills and Leakage

G-4n Landfill Leakage

Section G-4d (1) through Section G-4n of the Contingency Plan shall be utilized respectively.

G-7 Evacuation Plan

G-7a Evacuation Decision

The Emergency Coordinator is the sole CHSI representative who has the authority to direct personnel to evacuate the facility. Note that the use of the emergency siren requires employees to immediately exit their work place and proceed directly to the emergency assembly point west of Unit R1 outside the existing perimeter fence.

G-7B Evacuation Signal

The Emergency Coordinator shall activate the constant siren emergency notification signal to notify facility personnel of the decision to evacuate. Prior to evacuation, area supervisors must account for all personnel from their respective areas.

G-7c Evacuation Route

Evacuation routes from each of the operational and support areas are shown on CHSI Drawing No. 4220A, Amendment Emergency Evacuation Plan, attached to the Amendment. After exiting the workplace. Personnel will assemble at the emergency assembly point west of Unit R1 outside the existing perimeter fence. Personnel shall at the emergency assembly point to await further instructions from the Emergency Coordinator.

Table G-1: List of Emergency Coordinators

Coordinator/ Alternate	Address and Telephone Number

1. Primary Emergency Coordinator

Robert Sheahan, Operations Manager
Clean Harbors Services, Inc.
11800 S. Stony Island Avenue, Chicago, IL 60617
(773) 646-6202

Home Address: 18444 Ada Street
Lansing, IL 60438
(708) 474-1989

24- hr emergency cell phone: 1-773-418-3784

2. First Alternate

Jeff Demeuse, Operations Manager
Clean Harbors Services, Inc.
11800 S. Stony Island Avenue, Chicago, IL 60617
(773) 646-6202

Home Address: 9639 Arthur Street
Crown Point, IN 46407
(219) 226-9722

24-hr emergency cell phone: 1-773-406-2962

3. Second Alternate

James Laubsted, Compliance Manager
Clean Harbors Services, Inc.
11800 S. Stony Island Avenue, Chicago, IL 60617
(773) 646-6202

Home Address: 424 Prairie Knoll Drive
Naperville, IL 60565
(630) 416-1931

24-hr emergency beeper: 1-800-884-4914 (Pin #222-0315)

Table G-2 Emergency Equipment Capabilities

Equipment	Capabilities
- Telephones	Wired: Direct-dial access to outside emergency agencies. Equipped with load speaker function for emergency announcements and instruction. Cellular: Emergency communication in the event of a power outage or downed wires.
- Emergency Alarm	Audible signal capable of being heard clearly in all plant locations.
-Fire Extinguishers	1) Hand-held units, 20 lb. Charge (ammonium phosphate), rated for Class ; A, B, C, and or D fires. 2) Mobile (wheeled) units, 150lb charge, dry chemical (Purple K), rated for Class B; C flammable liquid fires.
- Fixed Foam/Water Sprinkler Systems	Automatic and manually-activated foam-water sprinkler systems in buildings 25, 26, and the Container Handling Dock, for extinguishing fires And cooling containers not involved in a fire.
- Fixed Halon Extinguishing System	Extinguish B and C fires in laboratory.
- Fire Monitor/Foam Cannons	Automatic and manually-activated foam-waters system to extinguish fires and cool tankage in the Ignitable Tank Farm Railcar Loading Area, Bulk Ignitable Tanker Unloading Area, and Bulk Ignitable Tanker Staging Area.
- Fire Hydrants	Supply make-up water for foam-water fire suppression system and mobile Purple-K Units. Connected to City of Chicago Municipal water supply system.

Table G-2: Continued

- Diesel FireWater Booster Pump	Provide additional pressures for internal fire fighting systems.
-Eyewash/showers (Stationary)	Fixed-based deluge showers and eyewash stations for flushing eyes and/or entire body.
- First Aid Kits	General first aid for minor personal injury such as cuts, scrapes, burns, etc.
- Self- Contained Breathing Apparatus (SCBA)	MSA units: supplied air system: each pack rated for 30 or 60 minutes.
- Respirators/Cartridges	Full-face and half-face masks for air purification. Cartridges include: Type for organic vapors, acid gases, and toxic dusts, fumes and mists; Type GMC for organic vapors and acid gases; Type H for dusts, mists, and fumes
- Barricade Coveralls	Raingear-type Level "B" suits for protection against spilled/splashed organic liquids.
-Tyvek Suits	Polyethylene-coated Level "C" suits for protection against contact with spilled'
- Gloves/Boots	Foot and hand protection from contact with chemicals. Material of construction and typical resistance include: Cloth: Dusts, soils, inorganic solids, Latex/Rubber: Non-hazardous liquids, solids. PCV: oil and oil-based products Neoprene/Nitrile: Acids, bases organic solvents a Alcohol PCB's Butyl: Chlorinated solvents, strong acids
- Safety Glasses/Goggles & Face Shields	Eye protection against moderate impact hazards, metal chips, Particles, and spares. Goggles and shield provide eye protection against splashed liquids.
- Eyewash Bottles	16 oz hand-held units for flushing eyes.
- Absorbents	Speed-dri and 3M Brand absorbent media for use in containing and cleaning up spilled liquids

Table G-2: Continued

- Buckets/Salvage Drums	Various sizes up to 85-gal overpack drums. For containerization of liquids,solids,and/or leaking containers
- Shovels/squeegees/hoe	General earth/absorbent moving, construction of terms to contain spilled liquids etc.
- Sump Pump, with 100 foot hose	Removal of spilled liquids from containment areas
- Trouble Lights	Portable light source, explosion proof.
- Fire Pump, with 100 foot fire hose	Gasoline-driven, to deliver water in the event of a fire

Table G-3 List of Coordination Agreements

Emergency Assistance Organization	Address, Telephone Number, Contact & Services Provided

A. Fire/Ambulance

City of Chicago Fire Department, Battalion #24
10458 S. Hoxie, Chicago, IL
(312) 747-6506
Contact: District Chief Bates
Service: Primary response agency for all emergency situations. Provide fire control containment and emergency rescue

B. Police

City of Chicago Police Department, District Station #4
2255 E 103re Street, Chicago, IL 60617
(312) 747-8205
Contact: District Commander Thompson
Service Control of traffic and criminal activity

C. Hospital

Advocate Trinity Hospital (Formerly South Chicago Community Hospital)
2320 East 93rd Street, Chicago, IL 60617
Contact: Mr. John Schwartz
(773) 967-2000
Service: Emergency medical assistance

D. Illinois Emergency Management Agency

Illinois Emergency Management Agency
110 East Adams Street, Springfield, IL 62706
Contact: Ms. Julia Gentile
(800) 782-7860 24 hour number

Service: Environmental Damage assessment and coordination

Table G-3 Continued

Emergency Assistance Organization	Address, Telephone Number, Contact & Services Provided

E. Sewer

Metropolitan Water Reclamation District of Greater Chicago
Main Office
100 East Erie Street, Chicago, IL 60611
Contact: Sever Discharge Monitoring Branch

Metropolitan Water Reclamation District to Greater Chicago
Calumet Field Station
400 East 130th Street, Chicago. IL 60628
Contact: Ms. Lia Collier-Harris

(773) 821-2071 -- Business Number
(312) 787-3575 -- Emergency Number

Service: Sever Discharge Monitoring

F. Emergency Response Contractors

1) Clean Harbors Environmental Services, Inc.
11800 S. Stony Island Avenue, Chicago, IL 60617
Contact: Mr. Frank Bozarth
(773) 646-5111

2) Si-Tech Industries
12057 S. Page Street, Calumet Park, IL 60827
Contact: Mr. Michael Sykora
(708) 371-4455

Service: Provide emergency pumping, hauling and/or alternate disposal facility

3) ETSI
4836 Colt Road, Rockford, IL 61009
Contact: Mr. Scott Zimber
(815) 872-0718 (815) 873-0718

Service: Provide emergency assistance with compressed gases

SECTION H
PERSONNEL TRAINING

H-1 Outline of the Training Program 724.116 (a) (1)

Clean Harbors Services, Inc. (CHSI) has prepared a written personnel training plan designed to familiarize personnel with the properties and hazardous nature of the hazardous waste stored and handled at the facility, with the procedures to operate and maintain the facility in a safe manner, and with the procedures and equipment to be used in the event of an emergency at the facility.

The purpose of the Training Plan is to promote efficient and safe performance of all facility operations, to ensure rapid and effective response to emergency events, and to protect CHSI employees, the environment, and the public. It will be CHSI's policy to emphasize accident prevention through training employees in the use of safe management practices.

CHSI's Training Program combines pre-employment Introductory Training in a classroom setting with facility-specific instruction and on-the-job training. Training subjects are reinforced through Continuing Training conducted on a periodic (e.g., weekly, monthly, annual) or as-needed annual basis. The content of the entire training program is described in Section H1-b below. All training sessions are prepared and conducted by qualified supervisors, managers, and in-house personnel experienced in hazardous waste management practices, and facility operations and procedures.

H-1a Job Title/Job Description 724.116 (d) (1) and (d) (2)

The type and degree of training provided to an individual is been directly related to the individual's work responsibilities and potential for contact with hazardous wastes. The job functions at CHSI, along with Employee Group Numbers assigned by the Corporate Training Manager, include the following:

Job Title	Employee Group Number
Vice President/General Manager	3.1
Facility Compliance Manager	3.2
Operations Manager	3.1
Senior Plant Operator	3.1
Operator Trainee	3.1
Maintenance I	3.2
Maintenance II	3.2
Chief Chemist – Plant	3.1
Chemist	3.1
Laboratory Technician	3.1
Truck Clerk/Sample Taker	3.1
Sales Representative	1.0
Sales Assistant – Plant	1.0

Clerical	1.0
Secretary/Bookkeeper – Plant	1.0
Office Administrator	1.0

The Employee Group Number assigned by the Corporate Training Manager to the various job titles identifies the particular training curriculum for each job position at the facility. The program is designed to achieve an overall level of training, which meets the particular needs of each job position at the facility. The various training programs are described in Section H-1b below. Detailed job descriptions for each job title are included in Appendix H-1.

H-1b Training Content, Frequency, and Techniques 724.116 (c) and (d) (3)

The content of the CHSI's Training Program is listed in Table H-1. As discussed in Section H-1a above, employees receive varying level of training based on their job title, job description, and Employee Group Number. Administrative and other support personnel assigned to Employee Group Number 1.0 (i.e., those individuals who are not directly involved in hazardous waste handling activities) receive a reduced level of training which includes Company Orientation, Right-to-Know/ Hazard Communication, Contingency/SPCC Plan, and Nature and Properties of Hazardous Waste. All other employees at CHSI are assigned to Employee Group Number 3.1 or 3.2 and receive instruction on the training topics listed in Table H-1. A summary of the training topics relevant to each Employee Group Number is presented in Table H-2.

Training is accomplished through a combination of classroom instruction, on-the-job training, mock exercises, or other training techniques appropriate for each topic.

H-1c Training Director 724.116 (a) (2)

David Anderson directs the Clean Harbors Corporate Training Program. Mr. Anderson has four years of experience in hazardous waste facility management operations/compliance and commercial environmental training. The Professional resumes for Mr. Anderson is presented in Appendix H-2.

H-1d Relevance of Training to Job Position 724.116 (a) (2)

Each new employee that is involved in hazardous waste management activities is required to attend the pre-employment Introductory Training program. New employees also receive Facility-Specific training, which is tailored to meet their specific job duties and responsibilities. No employee may work without supervision without having completed the Introductory Training program. All employees must complete the Facility-Specific Training program within six months of hire.

Continuing Training in the form of an annual review session will be mandatory for all facility personnel. The annual review will focus on the topics covered as part of the employee's introductory training. Other training in the form of weekly or monthly safety meetings and compliance updates will be conducted on an as-needed basis at the discretion of the General Manager, the Facility Compliance Manager and the Corporate Training Manager. The purpose of the periodic training sessions will be to review and reinforce previous training topics, and to instruct employees on new techniques, procedures, regulations or other relevant topics.

In addition, optional Continuing Training sessions on topics such as cardiopulmonary resuscitation (CPR) will be given periodically on an as-needed basis at the discretion of the General Manager, The Facility compliance Manager and the Corporate Training Manager. Instructors may be drawn from in-house expertise or a qualified outside contractor, such as a certified CPR instructor. Training may use classroom, on-the-job, drills and/or other techniques as appropriate for the particular training topic. Courses may be conducted either on-site or off-site.

H-1e Training for Emergency Response 724.116 (a) (3)

In an effort to ensure that facility personnel are able to respond effectively to emergencies at the facility, CHSI has structured the Introductory Training Program to include a detailed review of the facility's Contingency Plan and Spill Prevention, Control and Countermeasure (SPCC) Plan. Contingency Plan and SPCC Plan training is required of all facility employees regardless of Employee Group Number. Refer to Item B.2 of Table H-1 for a complete listing of the topics discussed as part of the emergency response training session.

Contingency Plan training will include procedures to coordinate with local officials to effectively evacuate local areas.

Each new employee will complete the required Site-Specific Training within six months of hire. No new employee involved in hazardous waste handling operations, or employee transferred to a new position at the facility, will be allowed to work without supervision until the employee completes the Site-Specific training program.

All training sessions will be documented, and all training records will maintain onsite by the Facility Compliance Manager. Attendance at individual training sessions is documented through the use of a standardized Training Documentation Form. Upon completion of the training session, both the attendee and the trainer are required to sign and date the form. A copy of each completed the Training Documentation Form is maintained in the individual's training file maintained by the Facility Compliance Manager; the original copy is forwarded to the Clean Harbors Corporate Training Department for record keeping and tracking purposes. A copy of the Training documentation Form is included in Appendix H-3.

Clean Harbors' Corporate Training Department also maintains comprehensive employee training records in a computer data base system. The database includes the employee's name, date of hire, job title, employee category, training topics, and dates attended. Annual update of training is ensured through use of a monthly report which shows which employees must be scheduled for training or training reviews within 30, 60 and 90 days from the date of the report. This monthly reporting system assists the Corporate Training Department in scheduling sessions to meet the appropriate retraining requirements for all employees. A print out documentation completed training sessions for all CHSI personnel employed as of November 26, 2002 is included in Appendix H-4.

Training records for each employee will be retained at the facility for a minimum of three (3) years after the date of employee termination. In cases where an employee transfers to another Clean Harbors facility, the employee's file, including training records, will be transferred to the other facility.

Program	Content

Introductory Training Topics

1. Clean Harbors Orientation/Compliance Awareness
   - Company Policies and procedures
   - Functions of facility
   - Relationship to other Clean Harbors companies
   - The regulated environment

2. Worker Right-To-Know/Hazard Communication Training
   - Federal and state laws
   - Basic chemical properties and handling procedures

3. Health and Safety Training/Awareness

   - Chemical handling and use of protective gear
   - Rational for use of protective gear
   - Procedures to prevent hazards and exposure
   - Personal Hygiene
   - Minimization of exposure to potential contamination

4. Personnel Protection Equipment
   - Use and care of safety and emergency equipment
   - Respirator training, including use and care of respirator and personal respirator fit test.

5. DOT/RCRA Labeling and Manifesting
   - Overview of environmental regulations
   - Hazardous Waste Manifesting
   - DOT terminology
   - EPA waste codes
   - Labeling and placarding
   - Use of DOT emergency response guide
   - Requirements of Clean Harbors licenses
   - Land Ban documentation

(Continued)

Program	Content

B. Facility-Specific Training:

1. CHCI Licenses, Permits and Approvals

2. Contingency and SPCC Plan Training
   - Use of communication and alarm systems
   - Emergency coordinators
   - Notification requirements
   - Response procedures in the event of injury, fire, explosion and/or spills
   - Response to potential groundwater and/or surface water contamination incidents
   - Shutdown of operations
   - Location and use of emergency and monitoring equipment
   - Automatic and manual waste feed shutdown systems
   - Evacuation and decontamination procedures

3. Properties and Nature of Hazardous Waste
   - Properties and hazards of hazardous waste

4. Waste Analysis Plan
   - Sampling Methods
   - Acceptance Criteria

5. Inspection Plan
   - Procedures for using, inspection, repairing and replacing facility emergency and monitoring equipment
   -

6. Standard Operating Procedures
   - Tanker loading/unloading procedures
   - Transfer pump operation and shutdown
   - Use of hazardous waste storage and transfer equipment
   - Container handling procedures
   - Waste treatment system operations
   - Sampling and receiving procedures

(Continued)

Program	Content
	7. Firefighting Training - Fire hazard caused by spills, leaks, and other releases of flammable liquids and vapors: - Heat induced explosions; - Containment of contaminated water and run-off; - Drum fires; - Bulk tank fires; - Location and use of pull-boxes; - Individual roles and duties during an emergency; - Incipient stage fire fighting; - Chemistry of fire; - Water as a protective device; - Use of emergency equipment; - Use and limitations of portable fire extinguishers; - Nature and scope of incipient fire fighting. 8. Decontamination Procedures - EPA protection levels; - Establishing the decontamination corridor (access control): - Types of specialized procedures, techniques of PCB's cyanides, acids, caustics, chlorinat4d solvents; - Choice and use of decontamination solvents; - Collection disposal of contaminated rinse solvents; - Soil and ground water contamination prevention.

(Continued)

Program	Content
C. Other Topics Training	
	1. On an as-needed basis, various topics such as: - CPR (given by certified instructors) - Chemical properties - Driver training - Forklift training - Vacuum tank theory and practice - PCB handling - Confined space entry procedures - Respirator protection and fit tests - Managers/compliance meetings
D. Continuing Training Program	
	1. Special Training Updates - Weekly or monthly training sessions given on an as-needed basis to provide employees with new information and or new shills whenever there are changes in the facility, facility procedures or the employee's job assignment.
	2. Annual Training Review - Annual review of all required training to reinforce each employee's previous training experiences into the General and Specific Training Programs, and to promote employee safety and level of awareness.

(Continued)

TableH-2 Training Topics

		Topics	Employee Group Number
I.	GENERAL		
	1.	Clean Harbors Company Orientation	1.0, 3.1, 3.2
	2.	Hazard Communication/Right-to-know	1.0, 3.1, 3.2
	3.	Health and Safety Training/Awareness	1.0, 3.1, 3.2
	4.	Personnel Protective Equipment	3.1, 3.2
	5.	DOT/RCRA Labeling and Manifesting	3.1, 3.2
II	SITE-SPECIFIC		
	1.	Contingency and SPCC Plans	1.0, 3.1, 3.2
	2.	Nature & Properties of Hazardous Waste	1.0, 3.1, 3.2
	3.	CHCI License, Permits and Approvals	3.1, 3.2
	4.	Waste Analysis Plan	3.1, 3.2
	5.	Inspection Plan	3.1, 3.2
	6.	Waste water Treatment Process Operations	3.1, 3.2
	7.	Standard Operating Procedures	3.1, 3.2
	8.	Fire Fighting Training	3.1, 3.2
	9.	Decontamination	3.1, 3.2

Location	Job Title	Employee Group	Course Description	Course Code	Category Code
Chicago	VP/GM	3.1	Clean Harbors Orientation/Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		
	Facility Compliance Manager	3.2	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		
	Operations Manager	3.1	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		

Location	Job Title	Employee Group	Course Description	Course Code	Category Code
Chicago	Senior Plant Operator	3.1	Clean Harbors Orientation/Compliance Awareness		
			Right to Know		
			Health & Safety Training/Awareness		
			Personnel Protective Equipment		
			DOT/RCRA Labeling and Manifesting		
			CHSI Licenses, Permits and Approvals		
			Contingency and SPCC Plan Training		
			Chemical Hazards		
			Waste Analysis Plan		
			Inspection Plan		
			Standard Operating Procedures		
			Firefighting Training		
			Decontamination Procedures		
	Operator Trainee	3.1	Clean Harbors Orientation/ Compliance Awareness		
			Right to Know		
			Health & Safety Training/Awareness		
			Personnel Protective Equipment		
			DOT/RCRA Labeling and Manifesting		
			CHSI Licenses, Permits and Approvals		
			Contingency and SPCC Plan Training		
			Chemical Hazards		
			Waste Analysis Plan		
			Inspection Plan		
			Standard Operating Procedures		
			Firefighting Training		
			Decontamination Procedures		
	Maintenance	3.2	Clean Harbors Orientation/ Compliance Awareness		
			Right to Know		
			Health & Safety Training/Awareness		
			Personnel Protective Equipment		
			DOT/RCRA Labeling and Manifesting		
			CHSI Licenses, Permits and Approvals		
			Contingency and SPCC Plan Training		
			Chemical Hazards		
			Waste Analysis Plan		
			Inspection Plan		
			Standard Operating Procedures		
			Firefighting Training		
			Decontamination Procedures		

Location	Job Title	Employee Group	Course Description	Course Code	Category Code
Chicago	Maintenance II	3.2	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		
	Chief Chemist	3.1	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		
	Chemist	3.1	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		

Location	Job	Employee Group	Course Descripton	Course Code	Category Code
Chicago	Laboratory Technician	3.1	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		
	Truck Clerk/Sample Take	3.1	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards Waste Analysis Plan Inspection Plan Standard Operating Procedures Firefighting Training Decontamination Procedures		
	Sales Representative	1.0	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training Chemical Hazards		
	Sales Assisstant	1.0	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Personnel Protective Equipment DOT/RCRA Labeling and Manifesting CHSI Licenses, Permits and Approvals Contingency and SPCC Plan Training/Chemical Hazards		
	Clerical	1.0	Clean Harbors Orientation/ Compliance Awareness Right to Know Health & Safety Training/Awareness Contingency and SPCC Plan training		

Section I
Closure and Post-Closure Requirements

I-1 Closure Plans 703.183 (m), 724.212

1-1a Closure Performance Standard 724.211

This Closure Plan has been developed by Clean Harbors Services, Inc. (CHSI) in accordance with 35 IAC 724 (Closure and Post-Closure) to describe the activities and procedures which will be undertaken to close its hazardous waste treatment and storage facility located at 11800 S. Stony Island Avenue in Chicago, IL.

This Closure Plan provides for a full decontamination of the facility and the removal of all hazardous wastes to offsite treatment/disposal facilities. Decontamination of a particular waste management unit (e.g., storage tank, secondary containment structure) will be deemed complete when the rinsate from the decontamination process no longer exhibits any of the following characteristics of a hazardous waste as defined under 40 CFR 261:

-	D001	Ignitable
-	D002	Corrosive
-	D003	Reactive
-	D004 through D011	Toxic Metals
-	D018 through D043	Toxic Organics

Because no hazardous wastes will remain at CHSI after full facility closure, post-closure activities and monitoring is not warranted or required. By removing all hazardous wastes from the site and decontaminating all equipment and structures, CHSI minimizes the need of further maintenance at the site, eliminates the risk of post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off or hazardous waste decomposition products to the ground or surface water or to the atmosphere; and prevents any threat to public health, safety, or welfare, or the environment.

1-1b Partial Closure Activities 724.212 (b) (1) and (2)

This Plan identifies all activities and costs that are necessary to individually close each hazardous waste management unit at any time during the facility intended operation life, and to close the facility as a whole at the end of its intended operation life. For purposes of this Plan, the facility will be assumed to be fully active and operation at maximum capacity at the time of a unit-specific or final facility closure.

A description of the closure procedures for the various hazardous waste management units in use at the facility is presented in Sections I-1d below. These procedures, and the itemized cost estimate presented in Section I-4, are applicable to partial closure situations such as the closure of a single tank or drum storage area and at full facility closure

Final closure procedures will be initiated upon the completion of the decontamination of the entire facility. The procedures will include:

1. The sale, return to the supplier, or transfer to other Clean Harbors, Inc. (CHI) facilities of all raw materials, laboratory supplies and equipment, furniture, trucks, fork-lifts, and other waste handling equipment;

2. Draining water and fuel line;

3. Removal or sale of all decontaminated processing equipment;

4. Termination of utilities, and;

5. Securing the facility.

Certain fixtures such as fences, gates and permanent structures will remain intact.

CHSI will amended this Plan as necessary to reflect any changes in the maximum operating capacity occurring as the result of significant facility modifications or the closure of any of the individual hazardous waste management units prior to full facility closure. All amendments to the Plan will be submitted to the Illinois Environmental Protection Agency (IEPA) pursuant to 35 IAC 724.212 © for review and approval.

I-1c **Maximum Waste Inventory** 724.212 (b) (1) and (2)

A list of the hazardous waste units included in this Closure Plan is presented in Table I-1. This table represents the maximum permitted inventory of waste at the site at any one time. For the purpose of this Plan, it is assumed that the facility will be operation at full capacity at the time of closure.

I-1d Inventory Removal, Disposal, or Decontamination of Equipment, Structures, and Soils

All hazardous wastes will be consolidated and shipped offsite for treatment, storage or disposal at approved and licensed facilities. The waste treatment and handling methods to be utilized during all closure actions are identical to CHSI's daily operation procedures for pumping liquid, handling sludges and solids, consolidating waste streams, and loading bulk transport vehicles.

The specific types of offsite hazardous waste management facilities to be used for the disposal of CHSI's waste inventory will be based on the availability of such facilities and any advancement in hazardous waste treatment technologies. However, the types of disposal/treatment options to be considered will include: hazardous waste incinerators of incinerable liquids, sludge's and solids; fuel blending/burning facilities for liquids with a recoverable energy value; waste water treatment facilities for aqueous-based streams, and; secure hazardous waste landfills for non-incinerable, non-treatable solids and sludge's.

Decontamination of a hazardous waste management unit within the facility will begins soon as the unit is cleared of all inventories. Following waste/residual removal and the initial cleaning step, all units will be thoroughly rinsed with water or other appropriate solvent which will be collected and either treated onsite (characteristic wastes only) or shipped offsite (listed wastes) for disposal. The final rinse water will be collected, sampled and analyzed. As described in Section I-1a above, decontamination of the unit will be deemed complete when the rinsate no longer exhibits any characteristics of a hazardous waste as defined under 40 CFR 261. If a hazardous waste characteristic is identified, the decontamination procedures and rinse analysis steps will be repeated.

All hazardous waste management units at the facility are located inside of, and all closure activities will be conducted within, concrete-lined buildings or diked/bermed containment areas. These engineered structured eliminate the need for additional surface water run-on/run-off control measures during the performance of closure activities. Similarly, because there are no underground waste storage tanks/piping or land disposal units at the facility, leachate collection and groundwater monitoring are not required or applicable in terms of monitoring the effectiveness of the closure activities.

I-1d (1) **Closure of Containers** 724.278

The closure of container storage and processing areas will be conducted in accordance with the container management closure requirements of 35 IAC 724.278.

At closure drummed wastes will be removed from the warehouses and transferred offsite to licensed treatment or disposal facilities. Drums containing flammable /organic material will be consolidated in bulk form and shipped to hazardous waste incinerators Poisons and PCB's will be repacked into 30-gallon kiln packs and shipped offsite for incineration'; all acids and bases will be consolidated and shipped to offsite treatment facilities. All other wastes will be shipped to offsite facilities in their original containers.

After the drums are removed, dust, soil and other residues will be swept or other wise cleaned up and handled as a hazardous waste, The containment floors and walls will be decontaminated as described above and then tested by approved method(s) t o determine whether the decontamination process has been successful. If not, the decontamination process will be repeated or an approved alternative method will be utilized. The rinse waters will be containerized and disposed of at a properly licensed waste disposal facility.

Emptied drums containing hazardous residuals and all other drums to be crushed will be processed prior to closure of the drum crushing units. Following compaction of all containers, the crushed drums will be disposed of by removal of the sealed rolloff container or storage box to a licensed waste disposal facility.

The drum-crushing unit will be decontaminated by washing with a detergent and water solution or a suitable solvent compatible with the materials crushed in the unit, and rinsed according to the procedures specified above. The drum-crushing unit will be tested with approved methods to determine whether the decontamination proceeds has been successful. If not, the decontamination process has been approved alternative method will be used. The reinserts from this process will be containerized and disposed of at a properly licensed waste disposal facility. The decontaminated crusher will be shipped for use at other Clean Harbors' facilitates or will be sold as scrap metal.

I-1d (2) Closure of Tank System 724.297, 724.410

I-1d (2) (I) General Tank Closure Procedures

The closure of all hazardous waste storage/processing tanks and associated equipment and structures will be conducted in accordance with the tank closure requirements of 35 IAC 724.297.

Waste fuel in the flammable storage tanks will be pumped onto bulk transport vehicles and shipped for use as a supplemental fuel. Other hazardous waste liquids will be loaded onto bulk transport vehicles for sh8pment to incinerators or other authorized treatment facilities.

All tanks will be decontaminated using the following general procedures:

- Removal of al liquids using pumps/vacuum lines;
- Scrape-down of ceilings and sides to remove hardened residues;
- Squeegee material into vacuum hose;
- Steam clean inside of tank, and
- Squeegee and vacuum all remaining material.

Once the initial cleaning phase has been completed, the units will be rinsed with waster. The interior and exterior surfaces of the tanks will be wipe-tested with approved methods to determine whether the decontamination process has been successful. All rinsate will be containerized and disposed of at an approved off-site facility.

The internal surfaces of pipelines and process equipment such as pumps will be decontaminated by running water and detergents or suitable solvents a (such as No. 2 fuel) through the equipment. The external surfaces will be decontaminated using a steam cleaner or high-pressure wash with detergents. All surfaces will be thoroughly rinsed with water or other appropriate solvent, and the rinsate will be containerized, analyzed, and disposed of at an approved off-site facility. All decontaminated equipment will be shipped for use at other Clean Harbors facilities or sold for scrap metal.

I-1d (2) (ii) Containment Structure Closure Procedures

All concrete-lined containment areas (e.g., secondary containment basins, truck loading/offloading pads, Rolf storage areas, etc.) will be decontaminated using the following procedures. Following waste removal, all surface areas will be scraped and swept to remove hardened residues. The surface will then be cleaned with high-pressure washer residues. The surface will then be cleaned with a high-pressure washer or steam cleaned with or with out detergents, followed by a through rinsing with clean water. All wash waster and reinserts will be containerized, analyzed, and disposed of at an approved off-site facility.

The closure of non-concrete lined containment areas will include the removal of contaminated soils and underlines, followed by soil sampling and analysis to confirm that the soil remaining in place s not contaminated.

I-1d (3) Closure of Waste Piles 703.204(h), 724.358

CHSI does not operate any waste piles at the facility. Therefore, the requirements of Section I-d (3) are not applicable.

I-d (4) Closure of Surface Impoundment's 703.203 (f), 724.328

There are four- (4) surface impoundment's at the facility which have been certified as closed in accordance with RCRA closure requirements. Since there are no other active surface impoundment's at the facility. The closure requirements of Section I-d (4) do not supply.

I-d (5) Closure of Incinerators 724.45
I-d (6) Closure of Land Treatment Facilities 724.380, 724.212

CHSI does not operate any incinerators, land treatment units, or disposal units. Therefore, the requirements of section I-d (5) and I-d (6) are not applicable.

I-1e Closure of disposal Units 703.183(m), 703.203(f), 703.204(h), 703.207(e), 724.328 (a)(2), 724.328 (c) (1) (A), 724.358(c), 724.410(a)

There are four- (4) surface impoundment's at the facility which have been certified as closed in accordance with RCRA closure requirements. Since there are no other active surface impoundments at the facility, the closure requirements of Section I-1e do not apply.

I-1f Schedule for Closure 724.212(b) (6)

CHSI will notify the IEPA in writing at least 45 days prior to the date on which closure of any particular unit or the facility as a whole is expected to begin. The date on which closure is expected to begin shall be no later than 30 days after the date on which the unit/facility receives the known final volume of hazardous waste. As provided I 35 IAC 724.212 (d) (2), CHSI reserves the right to seek IEPA approval for an extension of that date for a time period of one year of more.

Within 90 days of receiving the final volume of hazardous waste at a unit or the facility, CHSI will, in accordance with 35 IAC 724.213(a), treat or remove from the unit or the facility, all hazardous wastes in accordance with this Plan. Final closure activities will be completed within 180 days after receiving the final volume of hazardous wastes at the hazardous waste management unit or facility, as provided in 35 IAC 724.213 (b). CHSI's estimate of the time required for closure of each hazardous waste management unit and for the facility as a whole is depicted on the timeline presented in Table I-2.

Within 60 days of partial or final facility closure, CHSI shall submit to the IEPA, by registered mail, a certification that the unit or facility has been closed in accordance with the specification contained in the approved closure plan. The certification shall be signed by the owner/operator for the facility and by an independent registered professional engineer.

I-1g Extensions of Closure Time 724.213

The schedule for closure does not exceed the 90 days for treatment, removal or disposal of wastes or the 180 days for completion of closure activities. Therefore, no petition to extend the period of closure time beyond 180 days is required.

I-2 Post-Closure Plan 703.183(m), 703.203(f), 703.204(h), 703.207(e), 724.218,724.297 (b) and ©, 724.328 (b), 724.328 (c) (1) (B), 724.380 (c), 724.410(b)

A post-closure plan is not required for a container storage area, a tank system with secondary containment meeting the requirements of 35 IAC 724.293, or an incinerator. Therefore, the requirements of this section apply only to the four surface impoundments, which will be closed under interim status standards.

The four surface impoundments have been closed as a landfill in accordance with 35 IAC 725.328 and 725.410. Because landfills require post-closure care, this plan describes those activities necessary to maintain and monitor that land fills unit.

Closure of the units was certified by IEPA as complete in April 1994. In accordance with 35 IAC 725.217, the post-closure care period begins following completion of closure of the impoundment's and continues for at least 30 years after than date. Post-closure care activities include:

- Quarterly groundwater monitoring as described in the Post-Closure Groundwater Monitoring plan,
- Periodic maintenance and inspections,
- Repair or replacement of fences and motoring wells,
- Annual post-closure certification,
- Periodic surveys, and
- Periodic investigation and replacement of topsoil, as needed.

For the duration of faulty operation, the person to contact about the landfill during the post-closure care period is:

General Manger
Clean Harbors Services, Inc.
11800 South Stony Island Avenue
Chicago, IL 60617

Following final closure of the facility, the contact person will be

President
Clean Harbors Environmental Services, Inc.
1501 Washington Street
Braintree, Massachusetts 02184
(617) 849-1800

1) In accordance with 35 IAC 724.217©, post-closure use of the property will not disturb the integrity of the final cover, liner, other components of the containment system, or monitoring systems, except under those circumstances outlined in 724.217© (1) and (2). That is, disturbance is allowed, via permit modification, when it is necessary to reduce a threat to human health or the environment, or is necessary to the proposed use of the property (provided the potential hazard to human health and the environment is not increased).

I-2a Inspection Plan

I-2a (1) Purpose

The purpose of this section is to provide the periodic facility inspector with guidelines on how and where to conduct examinations and provide a standard checklist of observations that he inspector will make during a facility examination. This section, pursuant to 35 IAC 725.328(b), describes the activities required to:

1) Maintain the integrity and effectiveness of the final cover, including making requires to the cover as necessary to correct the effects of settling, subsidence, erosion or other events,
2) Maintain and monitor the groundwater monitoring system (together with the Post-Closure Groundwater Monitoring Plan), and
3) Maintain run-on and urn-off controls to prevent erosion or damage to the final cover.

I-2a (2) Inspection Routine

Inspection Frequency

Inspections will be conducted at the frequencies shown on Table I-3. Based on experience at other sites, it is appropriate to conduct inspections more frequently during the first five years when the greatest amount of cap settlement is likely to occur. After the first five years, thorough cap inspections will be conducted annually. Observation occurring during the course of semiannual moving and quarterly groundwater monitoring will supplement this annual inspection of the cap.

Permanent Site Inspection Notebook

The inspector shall record all pertinent observations. The record book shall normally remain on site in a locked and fireproof permanent container or offsite at a permanent secure location acceptable to the inspector. The record book shall be accessible to an authorized representative of a government agency during normal business hours. Inspection records shall be kept in a permanent file, and microfilmed and archived if appropriate. Typical inspection record entries shall include;

- Date, time of inspection, type of inspection (quarterly, semiannual, etc.)
- Name, address, agency, phone number of inspector
- Locations and appropriate observations
- Written verification that the cap drainage system is performing as sheet flow
- Written verification that each motoring well is intact,
- Locked, and riser is in good condition
- Details of local settlement
- Notation of locations with loss of vegetative growth
- General observations
- Location and details of drainage layer inspection
- Details of benchmark integrity and visibility
- Key aspects to check on future inspections
- Recommended repair and maintenance tasks
- Documentation showing completion date and nature of previously identified repair or maintenance tasks

I-2a (3) Inspection Activities

Walking Transect/Non-Intrusive Inspection of the landfill Area

The boundaries of the areas to be inspected are not necessarily restricted to the cap construction limits as shown on Figure I-1. The inspector will briefly focus on surrounding areas sand identify potential peripheral problems that may eventually impact the cap area itself and its integrity in performing is run-off control function. A generalized cross section of the cap components is provided as Figure I-2.

For the first year after the cap construction has been completed, the inspector(s) will inspect the cap areas monthly by walking transects of the cap on approximately 50-foot centers. During the second year after construction, walking transect inspections of the cap should be performed quarterly, and at least every six months during the third through the fifth year. Annual inspection shall occur until the end of post-closure care, which is 30 years. This inspection schedule is consistent with practices elsewhere and allows inspections to occur more frequently during the first five years when the greatest amount of settlement of the cap is expected.

Inspections will also be performed immediately after a significantly wet weather period, defined as the occurrence of a 25-year, 24-hour storm event (dropping more than 4.75 inches in one day).

Routine mowing maintenance efforts of not constitute transect inspections. However, inspections should be scheduled to coincide with the period immediately after mowing so ground conditions are less obscured by vegetation.

The use of specific transect routes is discouraged because the randomness of a given transect path might take the inspector over an area that may have been on the fringe of a previous inspection. Thus, more of the entire cap area would be examined over the course of several inspections in comparison to rigid transect routes. However, each inspection should always include a traverse of the perimeter of the landfill and drainage zones.

During the transect, the inspector will be cognizant of the following possible conditions that could affect the integrity of the final cap:

Evidence of settlement;

- Tension cracks in the ground surface,
- Escarpments, bulges, or other evident settlement features,
- Pounding of water on the surface o the cap,
- Soft spots where mowing equipment sank or may sink excessively,
- Excessive erosion, gulling, or
- Hollow sound in the cap, suggestion settlement beneath the geomembrane liner.

Evidence that drainage layer system components have failed;

- Seeps anywhere on the cap surface,
- Dry discharge points from the drainage layer system which had previously exhibited drainage,
- Pounding near the toe of the cap slope
- Mushiness near the toe of the cap slope,
- Suspended sediment (muddiness) in the drainage layer discharge, or
- Small animals may have attempted to enter the drainage layer system at the discharge points, cheek integrity of animal exclusion device/methods.

Evidence of large burrowing animals;

- Collapsed or active burrows, animal sightings

Areas of poor vegetative growth.

Security Control Devices

One means of limiting potential disturbances of the landfill and minimizing the potential threat to human health and the environment is to ensure that public access is limited. Thus, the facility's security system will remain in place for 30 years following final closure. That system presently consists of a six-foot high fence around the perimeter of the facility. The fence is supplemented by a video camera system, which is linked to the security guard gatehouse. Throughout the post-closure period, the facility's security system will be inspected semiannually, concurrent with mowing, and repaired as needed, CHSI expects that over the course of 30 years, the fence will be completely replaced.

Monitoring Wells

Throughout the post-closure period on at least a quarterly basis, the stainless steel wells used for groundwater monitoring will be inspected for physical integrity. The wells will be examined to ensure they are intact, locked, and that the risers are in good condition. No physical problems with the stainless steel groundwater monitoring wells have been reported since they were first installed in 1985. Nevertheless, for cost estimating purposes, CHSI is assuming that one will need to be replaced every ten years. If a well needs to be redeveloped or replaced it will be installed using accepted generally accepted well construction and development procedures.

Benchmark Integrity

The benchmarks will be inspected for integrity and visibility in a semiannual basis concurrent with mowing. A survey of the landfill area will be performed every ten years, indicating the location and dimensions of the landfill with respect to the permanently established benchmarks. They survey plat will be prepared and certified by a professional land surveyor and will be contained in that years annual post-closure certification.

Leak Detection System/Leachate Collection and Removal System/Gas Venting System

No leak detection, leachate collection and removal system, or gas venting system presently exists. Construction of these systems is not contemplated in the closure of the surface impoundments. Thus, there are no applicable inspection activities associated with these systems.

Exposure Information 35 IAC 703.186

As described in Subsection D-4 of this permit application, the surface impoundments were formerly used to store process wastewater from the scrubber system. They ere taken out to service in November 1988, and the process water was discharge to MWRDGC. The surface impoundments presently contain sludges and rainwater. The rainwater will be treated and discharged, and the sludge's will be solidified, which should substantially reduce the mobility of hazardous constituents in the sludge's, The impoundment's are capped with a synthetic liner and a clay cover which will be designed to minimize infiltration. These impoundments were constructed with a clay liner. The area below the impoundments is composed of soils and miscellaneous fill material. These combined factors minimize the potential for a release from the surface impoundments.

In the unlikely event of a release from the surface impoundment's, the constituents would flow toward Lake Calumet. However, the post-closure inspection and maintenance of the capped units and the post-closure groundwater-monitoring program provide prevention of releases to the lake.

The human exposure potential for a release is considered minimal since the water bearing zone which would be affected does not provide for any community public drinking water supply wells or primary contact recreation exposure. In addition. There are not community public water supply wells in the vicinity. The water-bearing zone is hydraulically connected to Lake Calumet, which is not used for recreational purposes. The area is industrially zoned. Once the surface impoundments are closed as a landfill, the landfill will be restricted from public access.

The 1987 Golder Report previously submitted to the IEPA fully responds to hydrological parameters pursuant to 35 IAC 703.186.

I-2b Post-Closure Monitoring Plan

I-2b (1) Post-Closure Groundwater Monitoring

Section E of CHSI's Request for Permit Modification provides an in-depth description of the compliance groundwater monitoring program for the surface impoundment's while under post closure core.

I-2b (2) Monitoring of the Leachate Collection and Remove System and Leak Detection System

No leachate collection, removal, or leak detection systems exists; therefore, this Subsection is not applicable

I-2c Post-Closure Maintenance Plan
I-2c(1) General Maintenance Activities

Security

Facility security consists of a six-foot high chain-link fence topped with barbed wire around the perimeter of the site. A video camera system supplements the fence, with cameras currently stationed at strategic points around the facility, all of which are linked to a security guard gatehouse.

CHSI expects that over the course of the 30-year post closure period, the entire fence will be replaced. Repairs to the fence and the ground beneath the fence will be make when holes or breaks in the fence develop or when burrowing animals create pathways to the facility which could be accessed by humans. Video cameras will be repaired or replaced if they become nonfunctional.

Monitoring Well Repair and Replacement

As described in Subsection I-2a (3), Inspection Activities, the integrity of the wells will be observed at least quarterly. Broken locks and deteriorating or broken risers are examples of conditions warranting repair. Silting-in of a well will warrant redevelopment or replacement of a well. To date, no problems have been experienced with the physical integrity of the wells, which were first installed in 1985. However, for cost estimating purposes, CHSI is assuming that one will need to be replaces every ten years.

Benchmarks

The post-closure inspection plan states that the integrity and visibility of the benchmarks will be examined semiannually. Displaced benchmarks will be re-established. A survey of the landfill will be performed every ten years, indicating the location and dimensions of the landfill with respect to the permanently established benchmarks.

I-2c (2) Landfill Maintenance Guidelines

Three levels of maintenance and repairs may be performed at the landfill area, some on a regular basis, most on an "as-needed" basis. These levels include regular maintenance, vegetative cover/topsoil/unclassified soil layer repairs, and geosynthetic material repairs.

I-2c (2) (a) Regular Maintenance

The facility will be mowed twice a year to ensure that large trees and bushes do not take root. Mowing will occur in the fall so seed heads are widely dispersed. Fertilizer will be applied at least annually in the spring; however, the cost estimate allows for fertilizing semiannually. Because the species of plant cover are drought-resistant (there are the same species used by the Illinois Department of Transportation (IDOT) for vegetating roadsides), no irrigation is anticipated.

I-2c (2) (b) Vegetative Cover/Topsoil/Unclassified Soil Layer Repairs

Repairs of this category might be in response to weather-related damage such as drought or erosion, burrowing animals, or repairs to the geosynthetic cover necessitated by settlement, subsidence, or displacement. Subsection I-2a (3), Inspection Activities, details conditions when repairs of the type are necessary.

Repairs will conform to the requirements of the construction specification of the previously submitted Surface Impoundment's Interim Status Closure Plan in relation to compaction, moisture of materials, and revegetation.

Repairs should always be undertaken with hand tools if at all practical. If larger repairs requiring motorized earthmoving equipment are required; the inspector will advise CHSI of the need for larger repairs and equipment. CHSI will ensure that necessary design and unclassified soil layer, and provide an addendum to the annual certification report demonstrating that these repairs have been implemented.

Universal Soil Loss Equation

The Universal Soil Loss Equation (USLE) was to estimate average annual soil losses from the vegetated final cap. This calculation is provided in Table I-4. The values input into the USLE flow:

- Two-year, 30-minute storm event precipitation: 1:12 inches
- 30% silt, 10% fine sand, 60% clay
- Blocky/Massive soil structure
- Very s low permeability class
- Five percent slopes; 220 feet maximum slope length
- Vegetative cover factor: 0.05 (perennial with annual forbs)
- Erosion control practice factor: 1.0 (only applies to agricultural land)
- Watershed area: 2.65 acres

The results of the USLE calculation follow:

Rainfall erosivity factor ®:	160 (100-ft. tons/acre x in. hr)
Soil erodibility factor (K)	0.24 tons per acre per R
Slope/watershed length factor: 0.80	

Unit Soil Loss :	1.54 tons/acre/year
Site Soil Loss:	4.08 tons/year

The unit soil loss value of 1.54 tons/acre/year is less than the IEPA recommended maximum value of 2 tons/acre/year. Maintaining annual soil losses below 2 tons/are/year is recommended to minimize gully development and cover maintenance requirements over the long term.

Plant Cover Selection

Vegetative species to be planted on top of the completed final cap will impede erosion and allow surface run-off. The vegetation component of the top layer will meet the following requirements:

- Locally adapted perennial plants,
- Resistant to drought and temperature extremes,
- Root depths that will to compromise the integrity of the cap,
- Capable of thriving in low-nutrient soil with minimum nutrient addition,
- Sufficient plant density to minimize cover soil erosion to no more than 2 tons/acre year, calculated using the United States Department of Agriculture (USDA) Universal Soil Loss Equation (see Table I-4),
- Capable of surviving and functioning with little or no maintenance,
- Capable of remaining in placed and minimizing erosion of itself and the underlying soil component during extreme weather events or rainfall and/or wind,

- Capable of accommodating settlement of the underlying material without compromising the purpose of the component,
- Capable of being a functional evapotranspiration system which provides for adequate water uptake and removal from the cap, and
- Capable creation a vegetative system so vibrant so as to check the encroachment of woody, herbaceous plants.

The seed mix used on other company landfills in the area has satisfied the above criteria. The seed mixture is the one specified by the IDOT in the "Standard Specifications for Road and Bridge Construction – Adopted 7-1-88" Article 642.07 for Standard Type 1 Lawn Mixture. Thus, the mix appears to be locally adapted and has survived several growing seasons of temperature extremes. All of the seeds are perennial except for rye grass, which is used to provide a fast vegetative cover while the other seeds germinate. In addition, the root depths of all the seeds will not exceed the 42 inches of rooting zone soil placed above the geosynthetics.

Recommended seed application rates follow:

Species	Pounds of Pure Live Seed/Acre
Kentucky Blue Grass (Poa Pratensis)	50
Perennial Ryegrass (Lolium Perenne)	30
Red Fescue (Festuca variety)	20
Total pounds of live seed per acre	100

Consistent with the application rate for the IDOT, 100 pounds of grass seed mixture Will be applied per acre.

I-2c (2)© **Geosynthetic Material Repairs**

The need for repairs will be detected during the regular cap inspection or during other post-closure activities such as mowing. While the geosynthetic layers have been designed to resist settlement, repairs of the geosynthetic materials may be come necessary when damage to the surface cover has occurred. If surface damage is evident form settlement or due to Acts of God, it is appropriate to excavate vegetative cover and examine gesynthetics for evidence of damage. Repairs will be done in accordance with the generally accepted engineering practices.

If repairs are necessary, IEPA will be notified in writing at least seven working days prior to any repairs to the geosynthetic materials.

I-2© (2) (d) Leachate Collection and Removal System/Leak Detection System

The land fill unit contains neither a leak detection system nor a leachate collection and removal system. Therefore, no maintenance activities are required.

I-2d Continued Land Treatment

There are no land treatment activities at the CHSI facility; therefore, this subsection is not applicable.

I-3 Notice in Deed and Certification 703.183(n), 724.216, 724.217©, 724.219

The closure of the four (4) surface impoundment's at the facility was completed in December 1993, and certified as completed by the IEPA in April 1994, Simultaneous with the submission of the certification of closure, a survey plat of the facility was filed with the IEPA. The survey plat indicates the location and dimensions of the landfill with respect to permanently surveyed benchmarks, in accordance with 35 IAC 725.216. A record of the type, quantity, and location of hazardous wastes disposed was also be submitted to IEPA, in accordance with 35 IAC 725.219. The plat was prepared and certified by a professional land surveyor. The plat contains a prominently displayed note stating that the owner and operator are obligated to restrict disturbances to the integrity of the final cover, liners, and other components of the containment system, as well ad the groundwater monitoring systems, except in certain limited circumstances described in the regulations.

The survey plat with the prominently displayed note, and the record of type, quantity, and location of hazardous wastes disposed was also provided to the Illinois International Port District, the property owner, for filing with the Cook county Recorder's Office, applicable zoning authority, or authority with jurisdiction over local land use. A copy of the survey plat included in Appendix I-1.

The Port district has been notified that it must file the survey plat described above, and place a notation on the property deed (or some other instrument normally examined during title search) within 60 days of certification of the surface impoundment closure. The Port District has been provided with the notation which indicates that the land has been used to manage hazardous waste, and thus use of the following certification of closure of the impoundment's, and additional certification to IEPA was filed. The certification states that the post-closure notices were included in this additional certification, and a complete set was provided to the Illinois International Port. A copy of the Post-closure notice included in Appendix I-2.

I-4 **Closure Cost Estimate** 703.183, 724.242

CHSI has prepared a comprehensive closure cost estimate for final closure of all existing and proposed units at the modified facility. The cost estimate is based on third party costs and does not include salvage value for the sale of hazardous wastes, facility structures, or equipment. The closure cost calculations for the CHSI facility are included in Appendix I-3.

I-5	**Financial Assurance Mechanism for Closure**	703.183(o), 724.243
I-5a	**Closure Trust Fund**	724.243(a), 40 CFR 264.151(a) (1)
I-5b	**Surety bond**	724.243(b) and (c), 724.251(b) and (c)
I-5c	**Closure Letter of Credit**	724.243(d), 40 CFR 264.151 (d)
I-5d	**Closure Insurance**	724.243(e), 40 CFR 264.151(e)
I-5E	**Financial Test and Corporate Guarantee For Closure**	724.243(f), 724.251(f), 40 CFR 264.151(h)
I-5f	**Use of Multiple Financial Mechanisms**	724.243(g)
I-5g	**Use of Multiple Financial Mechanism for Multiple Facilities**	724.243(h)

CHSI shall, concurrent with final RCRA Part B approval, provide to IEPA an appropriate financial assurance mechanism for closure of the Part B Facility. A copy of the financial assurance mechanism for the existing facility is included in Appendix I-4.

I-6 **Post Closure Cost Estimate** 703.183(p), 724.244

A comprehensive closure cost estimate for post-closure activities involving the closed surface impoundments is included in Appendix I-5. The cost estimate is based on third party costs and includes groundwater monitoring and post-closure care and maintenance of the capped area and support facilities. The total cost, in 1994 dollars, to perform 30 years of post-closure care is $4,984,317. The total annual cost of post –closure care and monitoring is approximately $166,144.

I-7 **Financial Assurance Mechanism for Post Closure** 703.183(p), 724.245

CHSI shall, concurrent with final RCRA Part B approval, provide to IEPA an appropriate financial assurance mechanism for closure of the approved Part B Facility. A copy of the financial assurance mechanism for the post closure activities is included in Appendix I-6.

I-8	**Liability Requirements**	703.183(q), 724.247
I-8a	**Coverage for Sudden Accidental Occurrences**	724.247(a)
I-8b	**Coverage for Nonsudden Accidental Occurrences**	724.247(b)

CHSI has secured hazardous waste facility liability insurance for sudden and non-sudden accidental occurrences. The limits of liability are $3 million per occurrence and $6 million annual aggregate.

A copy of the Hazardous Waste Facility Certificate of Liability Insurance is provided in Appendix I-7.

I-8c **Request for Variance** 724.247©

CHSI does not request, at this time, an adjustment to the required level of liability coverage, therefore, the requirements of Section I-8c are not applicable.

I-9a **Use of State-Required Mechanism** 40 CFR 264.151
I-9b **State Assumption of Responsibility**

Section I-9a and Sections I-9b are not applicable.

Table I-1: Closure Units/Maximum Capacity

Hazardous Waste Management Unit		Number/Volume
I. DRUM STORAGE AREAS	(Based on 55-gallon drums, or equivalent)	
A. Existing Areas		
Indoor Storage Area	Acidic – 1	192
Building 2	Acidic – 2	96
(Unit G1)	Alkaline	192
	Staging	72
	Subtotal	552
Outdoor Storage	Oxidizer	96
(Unit R1)	Reactive	96
	Poisons	96
	Flammable – 1	160
	Flammable - 2	160
	Staging (Inbound)	160
	Subtotal	768
Drum Storage Expansion	Oxidizer – 2	96
(Unit R2)	Reactive – 2	96
	Poisons	96
	Staging(Outbound)	80
	Subtotal	368
Lab Pack Pour-off Station	Alkaline/Acids	8
(Unit F1)	Subtotal	8
Building 26	Ignitable	192
(Unit 26)	Subtotal	192
Container Handling Dock	Staging	160
(Unit 61)	Subtotal	160
Building 25	Alkaline/Poison	248*
	Acids	136
	Flammable	184
	Truck Pad	88
	Subtotal	656*
B. Approved/Not Yet Constructed		
Outdoor Storage Expansion	Flammable – 3	160
(Unit R2)	Subtotal	160

(Continued)

Lab Pack Building	Acid/Alkaline	10
(Unit U)	Other	25
	Subtotal	35
Building 42	Ignitable/Toxic Paints	64 cu.ft.
		52
(Unit 42)	Subtotal	52 and 64 cu.ft.
Shredding Operation	Ignitable/Toxic	17
(Unit 24)	Debris	64 cu.ft
	Subtotal	17 And 64 cu.ft.
Metalwashing Operation	Sludge	1
	Subtotal	1

C. Total - - - 2,969 55-Gallon Drums and 128 cu. ft.(164,253 Gallons Total), or equivalent*

*- With the lamp crusher in Unit 25, the maximum capacities are reduced to 73 (alkaline bay), 481 (Unit 25) and 2,794 plus 128 cu. ft. (154,628 Gallons Total), or equivalent.

(continued)

Table I-1: Continued

Hazardous Waste Management Unit		Number/Volume

BULKSOLIDS STORAGE AREAS (BASED ON 30-CUBIC YARD ROLLOFFS, OR EQUIVALENT)
Existing Storage Areas

Bulk Container Storage Area	Rolloffs	3
(Unit Q1)	Subtotal	3
Bulk Solids Storage Pad	Rolloffs	8
(Unit B)	Subtotal	8

Approved/Not Yet Constructed Areas

Listed Waste Rolloff	Rolloffs	1
(Unit Z1)	Subtotal	1

Total - - Twelve (12) 30-Cubic Yard Rolloffs (360 Cubic Yards Total, or Equivalent)

TRANSPORTATION UNIT CONTAINER STAGING /STORAGE AREAS
Existing Storage Areas

Truck Unloading and Bulking Area (Unit Q)	Unit Container	3
Truck Unloading Dock (Unit V)	Unit Container	3
Rail Car Unloading Area (Unit 13) @ 30,000 gallons each	Unit Container	2
Flammable Truck Staging Area (Unit 59)	Unit Container	3
Truck Staging Area (Unit C)	Unit Container	6
Truck Unloading Platform (Unit 15)	Unit Container	2
Truck Pad (Unit 62)	Unit Container	4

Approved/Not Yet Constructed

Truck Loading /Unloading Pad (Unit X)	Unit Container	2
Truck to Truck Transfer Pad (Unit W)	Unit Container	4
Truck Loading/Unloading Pad	Unit Container	2

(Continued)

tal - - Rail: Two (2) Railcars (60,000 Gallons Total)

Highway: Twenty-Seven (29) Units (208,800Gallons), or equivalent

(Continued)

Table I-1: Continued

Hazardous Waste Management Unit		Number/Volume
Tank Storage/Treatment Unit		
A. Existing Tank Storage Units		
Ignitable Liquid Tank Farm		9 @ 12,800 Gallons
		1 @ 19,800 Gallons
Total Capacity	=	135,000 Gallons
Fuel blending Processing System		
Dispersion Tank		1 @ 1,225 Gallons
Overflow Tank		1 @ 275 Gallons
Total Capacity	=	1,500 Gallons
B. Approved/Not Yet Construction Tank Storage Units		
Listed Waste Tank Farm		6 @ 11,025 Gallons
		2 @ 11,025 Gallons
Total Capacity	=	88,200 Gallons
Listed Wastewater Treatment System		
Reactor		1 @ 13,570 Gallons
Lamella Clarifier		1 @ 1,200 Gallons
Clarifier Collection Tank		1 @ 4,100 Gallons
Sludge Conditioning Tank		1 @ 1,270 Gallons
Sand Filters		2 @ 750 Gallons
Backwash Collection Tank		1 @ 3,770 Gallons
Treated Effluent Tank		1@ 2,640 Gallons
Carbon Adsorption Units		2 @ 1,300 Gallons
Total Capacity	=	30,650 Gallons
Bulk Flammable Liquid Tank Farm (Unit 22)		2 @ 10,558 Gallons
		1 @ 15,547 Gallons
		1 @ 6,136 Gallons
Total Capacity	=	42,799 Gallons
Shredding Operation		1 @ 3,490 Gallons
Metalwashing Operation		1 @ 3,730 Gallons
		1 @ 987 Gallons
Total Capacity	=	4,717 Gallons

D. Total -- 306,356 Gallons in Thirty-Seven (37) Tanks

(Continued)

Facility Totals/License capacity

A. Container

2,969	55-Gallon Drums and 128 cu. ft. (164,253 Gallons Total), or equivalent
29	7,200-Gallon Bulk Highway Transporters (208,800 Gallons Total), or equivalent
2	30,000-Gallon Railcars (60,000 Gallons Total), or equivalent
12	30-Cubic Yard Rolloffs (360 Cubic Yards Total), or equivalent

B. Tanks

37 Tanks (306,356 gallons total)

Table I-2: Closure Timeline

Closure Activity		Day (-45)	(-30)	(-15)	0	(+15)	(+30)	(+45)	(+60)	(+75)	(+90)	(+105)	(+120
Notify IEPA of Closure		X											
Notify Generators of Last Date For Waste Acceptance			X	----------	----------								
Discontinue Waste Acceptance					X								
Container Storage Closure													
-	Building 2				X	----------	----------						
-	Out Door Storage				X	----------	----------						
-	Building 25				X	----------	----------						
-	Building 26				X	----------	----------						
-	Container Dock				X	----------	----------						
Lab Pack Area					X	----------	----------						
Fuel Blending													
-	Process Building				X	----------	----------						
-	Tank Farm/Unloading Pad				X	----------	----------						
Shredding													
-	Process Building				X	----------	----------						
-	Tank Farm/Unloading Pad				X	----------	----------						
-	Metalwash Area				X	----------	----------						
Drum Crushing					X	----------	----------						
Listed Waste													
-	Tank Farm				X	----------	----------						
-	Process Building				X	----------	----------						
Bulk Solids					X	----------	----------						
Transportation Staging/Storage					X	----------	----------						
-	Unit Q				X	----------	----------						
-	Unit V				X	----------	----------						
-	Unit C				X	----------	----------						
-	Unit 59				X	----------	----------						
-	Unit 15				X	----------	----------						
-	Unit 62				X	----------	----------						
-	Unit 13				X	----------	----------						
-	Unit B				X	----------	----------						
-	Unit W				X	----------	----------						
-	Unit 69				X	----------	----------						
Final Closure Inspection And Certification					X	----------	----------	----------	----------	----------	----------	----------	----------

Table I-3: Frequency of Inspections and Other Post-Closure Activities

ACTIVITY	FREQUENCY	
Cap Inspection	Monthly 1 Quarterly 1 Semi-annually 1 Annually	(year 1) (year 2) (year 3-5) (year 6 – 30)
Mowing	Semi-annually (at least once in autumn)	
Groundwater Monitoring Sampling & Analysis	Quarterly	
Physical Integrity Inspection	Quarterly	
Security Inspection	Semi-annually 2	
Benchmark Inspection	Semi-annually 2	
Certification	Annually	

Notes:

1. Inspections will also occur after a significantly wet period, defined as a 25 year, 24 hour storm event.

2. To be performed concurrent with mowing.

Table I-4: Estimated Annual Soil Losses From Vegetated Final Cap

The general form of the universal soil loss equation is:*

$$A = R \times K \times LS \times C \times P$$

Where:

A	=	Soil loss, tons/(acre)(year)
R	=	Rainfall erosion indes, in 100 ft. tons/acre x in/hr
K	=	Soil erodibility factor, tons/acre per unit of R
LS	=	Slope length and steepness factor, dimensionless
C	=	Vegetative cover factor, dimensionless
P	=	Erosion control practive factor, dimensionless

Assumptions and values:

The topsoil consists of approximately 30% silt, 10% fine sand and 60% clay.

Blocky/Massive Soil Structure

Very Slow Permeability Class

5 Percent Slopes; 220 feet maximum slope length

Watershed area: 2.65 Acres

R	=	160 (100 ft. ton/acre x in/hr)
K	=	0.24 (tons/acre per unit of R)
LS	=	0.80 (dimensionless)
C	=	0.05 (Type of cover consist of perennial grass with a annual grass)
P	=	1.0 (Use 1.0 because P refers only to soil loss in Agricultural lands)

Calculating:

A	=	160 x 0.24 x 0.80 x 0.50 x 1.00
A	=	1.54 tons/acre-year or 1.54 tons/acre-years x 2.65 acres = 4.08 tons-year

Conclusion: The maximum allowable soil loss recommended by the IEPA is 2 tons/acre-year which is greater than the anticipated soil loss calculated above (1.54 tons/acre-year). The 5% slope for the cap and the selected vegetation specified will control soil-erosion which will minimize maintenance of the cap.

*

Source: Goldman, Jackson and Bursztynsky, Erosion and Sediment Control Handbook, McGraw Hill, 1986.

Attachment 1

Clean Harbors Services, Inc.
Additional Closure Cost For Proposed Dock Modification

Assumptions:

80 Containers (55-Gallon Drum Equivalents)
Filled with miscellaneous hazardous waste solids
Intended to be consolidated in rolloff containers
For shipment to Envirosafe Service in Oregon, OH
For treatment/disposal as a RCRA hazardous waste

Unit Costs (Taken from CHSI RCRA Part B, Appendix I-3, Page 2) :

Disposal	=	$ 234.00	per Cubic Yard	
Transportation	=	$ 27.50	per Cubic Yard	
TOTAL	=	$ 261.50	per Cubic Yard	(1995 dollars)

Updating Unit Costs for Inflation:

1996 Cost	=	(1995 Cost) x (Inflation factor)
	=	$261.50 x 1.0257
	=	$268.22 per cubic yard (1996 dollars)

Calculating Closure Revision:

(80 dr) (55 gal/dr) (0.1337 CF/gal) (0.037 CY/CF) ($268.22/CY) = $5,838

SECTION J
OTHER FEDERAL LAWS
[703.182]

Clean Harbors Services, Inc. (CHSI) is currently operating in compliance with the requirements of applicable Federal laws. CHSI can demonstrate this statement by providing the following document:

* **Clean Air Act** – All air emission sources are permitted and/or registered with IEPA Division of Air Pollution Control. Copies of CHSI's air pollution control permits are included in Appendix J-1.

* **Clean Water Act** – CHSI discharges a wastewater effluent to a Publicly Owned Treatment Works (POTW), which is authorized by the IEPA Division of Water Pollution Control and the Metropolitan Water Reclamation District of Greater Chicago. Copies of CHSI's wastewater permits are included in Appendix J-2.

* **Wild and Scenic Rivers Act** – Not applicable.

* **National Historic Preservation Act of 1966** – Not applicable

* **Endagered Species Act** – Not Applicable

* **Coastal Zone Management Act** – Not applicable

* **Fish and Wildlife Coordination Act** – Not applicable

SECTION K
PART B CERTIFICATION

K-1 Facility Certification 702.126

A certification letter prepared as specified in 35 IAC 702.126(d) is included in Appendix K-1 of this Application.

K-2 Engineering Certification 703.182

All of the technical data submitted in support of this RCRA part B License Application, including design drawings, specifications, and engineering studies, has been reviewed by and certified (sealed) by an independent Professional Engineer (PE) who is licensed to practice in the State of Illinois. A certified (sealed) table of contents for which includes a listing of all technical data reviewed by the PE is included in Appendix K-2.

K-3 Prior Conduct Certification

Prior Conduct Certification documentation is provided in Section O of this application.

SECTION L
CONTINUING RELEASES AT PERMITTED FACILITIES

L-1 Solid Waste Management Units
L-1a Characterize the Solid Waste Management Unit

L-1a(i)Existing CHSI Property

All solid waste managements units in existence at CHSI are currently regulated by the Illinois Environmental Protection Agency ("IEPA"). This is demonstrated by the IEPA, Land Pollution Control Division Operating Permit, and existing RCRA Part B (Permit Log B-16) which identify all "regulated" solid waste management units. A copy of the Operating Permit is included in Appendix L-1.

Under the Approved November 1993 Part B Permit, CHSI received authorization to incorporate the assets of the CWM Chemical Services, Inc. (CWMCI) hazardous waste facility located adjacent to the existing CHSI facility.

CWMCSI was an interim status hazardous waste storage and treatment facility that had been in existence since the early 1970's. Onsite solid waste management units include a hazardous waste incinerator, drum storage units, tank storage units, surface impoundment units (closed), biological treatment units (closed), and other related assets. The facility is also licensed as a commercial storage and disposal facility for polychlorinated biphenyls (PCB's).j

A complete description of the solids waste management units on the CWMCSI portion of the facility is included in Appendix L-2.

L-1b No Solid Waste Management Units

CHSI is not making a claim that there are no solid waste management units at the site. See Section L-1a above.

L-2 Releases

L-2a(I) Characterize Releases – Existing Facility

The following is a list of releases that have occurred from solid waste management units at CHSI:

Date of Release	Type
11/08/83	Air Emission Release
01/06/85	Leaking Pipeline
07/14/87	Air Emission Release

Date of Release	Type
08/02/90	Container Spill
08/23/90	Leaking Transport Vehicle
06/11/91	Broken Pipeline
06/29/91	Air Emission Release
07/03/91	Container Spill
07/26/91	Air Emission Release
08/05/91	Container Spill
02/17/92	Container Spill
06/03/92	Container Spill
06/04/92	Container Spill
06/26/92	Leaking Pipeline
07/22/92	Container Spill
08/10/92	Air Emission Release
08/27/92	Container Spill
11/25/92	Container Spill
12/04/92	Container Spill
12/16/92	Container Spill
12/28/92	Tank Foamover
12/30/92	Container Spill
01/11/93	Container Spill
04/12/93	Container Spill
04/23/93	Container Spill
07/14/93	Container Spill
12/13/93	Container Spill
12/20/93	Tanker Spill
12/21/93	Container Spill
03/14/94	Tanker Spill
07/19/94	Container Spill
06/13/95	Container Spill
07/26/95	Container Spill
11/10/95	Container Spill
11/17/95	Container Spill
12/07/95	Container Spill
12/08/95	Container Spill
03/22/96	Container Spill
05/09/96	Container Spill
05/23/96	Container Spill
08/01/96	Container Spill
08/05/96	Container Spill
09/03/96	Container Spill
09/19/96	Tanker Spill
09/24/03	Container Spill
10/30/96	Leaking Pipeline
05/05/97	Tank Foamover
05/22/97	Container Spill

Date of Release	Type
07/09/97	Container Spill
07/11/97	Container Spill
08/09/97	Container Spill
09/06/97	Fire
10/10/97	Container Spill
10/17/97	Container Spill
04/16/98	Container Spill
05/27/98	Container Spill
06/01/98	Container Spill
06/11/98	Container Spill
06/15/98	Fire
07/17/98	Container Spill
07/23/98	Container Spill
08/10/98	Container Spill
08/14/98	Container Spill
08/27/98	Container Spill
09/09/98	Container Spill
09/15/98	Container Spill
09/28/98	Container Spill
10/14/98	Container Spill
11/18/98	Container Spill
02/01/99	Container Spill
02/11/99	Container Spill
06/24/99	Container Spill
07/01/99	Container Spill
07/26/99	Fire
09/27/99	Fire/Reaction
11/04/99	Fire
04/03/00	Reaction/Fire
04/20/00	Container Spill
06/23/00	Flash/Fire
10/07/00	Evacuation
10/11/00	Container Spill
11/08/00	Container Spill
01/10/01	Container Spill
02/16/01	Fire
02/23/01	Container Spill
03/06/01	Container Spill
03/14/01	Container Spill
04/30/01	Container Spill
04/30/01	Container Spill
05/08/01	Container Spill
07/06/01	Container Spill
07/21/01	Fire
08/16/01	Vapor Release
09/18/01	Container Spill
10/20/01	Container Spill

Date of Release	Type
01/28/02	Container Spill
02/25/02	Fire
06/05/02	Vapor Release
06/18/02	Fire
06/27/02	Container Spill
10/14/02	Container Spill
10/29/02	Container spill
04/04/03	Container Spill

All releases from CHSI solid waste management units to the environment have been reported to IEPA. Written reports characterizing each of the releases are included in Appendix L-3.

L-2a(ii) Characterize Releases – CWMCSI Portion of Facility

Releases which have occurred on the CWMCSI portion of the facility are described in previously-referenced Appendix L-2.

SECTION M
RESEARCH, DEVELOPMENT, AND DEMONSTRATION PERMITS
[RCRA §3004 (u)]

Clean Harbors Services, Inc. (CHSI) is not requesting a research, development, or demonstration permit under RCRA as part of this Part B License Application.

SECTION O
PRIOR CONDUCT CERTIFICATIONS AND FACILITY COMPLIANCE HISTORY

O-1 Ownership and Corporate Officers

Clean Harbors Services, Inc. is a wholly-owned subsidiary of Clean Harbors, Inc., an environmental services company headquarters in Quincy, Massachusetts. A detailed description of Clean Harbors is presented in the Company's SEC 10K Form included in Appendix O-1.

a. Owner/Operator

Clean Harbors Services, Inc.
11800 South Stony Island Avenue
Chicago, Illinois 60617

b. Officers of the Company

Name	Title
Alan S. McKim	Director
Eric Gerstenberg	President
Stephen H. Moynihan	Senior Vice President
John Lancaster	V.P. & General Manager
Carl Paschetag	Treasurer
C. Michael Malm	Clerk
William J. Geary	Assistant Clerk

O-2 Prior Conduct Certification Form

Mr. John Lancaster and Mr. Stephen H. Moynihan each hold authorized signatory authority for all matters related to facility permitting. Completed "Prior Conduct Certification Forms" for these individuals are included in Appendix O-2.

O-3 Facility Compliance History

See Appendix O-3 for a description of violations of federal, state or local laws, regulations or ordinances at the facility. The description covers the time periods prior to, and since, CHSI assumed operational control of the facility in 1989 from ChemClear, Inc.

SECTION AA
AIR EMISSIONS STANDARDS FOR PROCESS VENTS

AA-1 **Identification of Units** 724.932

Clean Harbors Services, Inc. (CHSI) does not perform any distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. Therefore, the CHSI facility is not required to comply with the requirements of Subpart AA.

SUBPART BB

BB.1 Determination of Applicability to the CHSI Facility

The Clean Harbors Services, Inc. (CHSI) facility located at 11800 South Stony Island Avenue, Chicago is a RCRA Part B permitted hazardous waste TSDF and has been permitted by the US EPA and IEPA to receive, treat and transfer a variety of waste streams. The treatment methods utilized at this facility reduce the volume and or toxicity of waste materials to a level that meets specifications for discharge into a publicly owned treatment works for wastewater (POTW), or makes it suitable for further treatment, reuse or disposal.

The CHSI facility's piping , fuels dispersion system and shredding system are subject to the requirements of Subpart BB because they routinely handle wastes with an organic content in excess of 10% by weight. Emissions from the regulated equipment are managed by the implementation of a leak detection and repair (LDAR) program. Emissions control devices are not currently used to manage the emissions from Subpart BB regulated equipment.

A summary of affected equipment types and the control and compliance requirements for each of the affected equipment types is presented in Table 3.1. A detailed list of the equipment at CHSI, which is subject to Subpart BB, is presented in Appendix A.

BB.1.1 Direct Measurement

Subpart BB applies to certain types of equipment used to manage hazardous wastes with organic concentrations of at least 10% by weight at any time.

The organic concentration of the hazardous wastes can be determined by process knowledge, or by analytical methods using any of the following test methods which are included in the facility's waste analysis plan:

- ASTM D 2267-88
- ASTM E 169-87
- ASTM E 168-88
- ASTM E 260-85
- SW 846 Method 9060
- SW 846 Method 8240

BB.1.2 Knowledge

For the purposes of complying with Subpart BB the waste managed in these units at CHSI is assumed to be at least 10% by weight organic material, and is also assumed to be in light liquid service or gas vapor service. This results in the most stringent leak detection requirements for the facility, thus ensuring compliance regardless of the composition of liquid in the affected processes.

BB.2.1 Vacuum Service

No equipment has been designated as in vacuum service

BB.2.2 300 Hours/Year

All equipment in contact with organic liquids at a concentration of 10% or greater is assumed to be in service for greater than 300 hours per calendar year.

BB.3 Equipment Identification

Subpart BB applies to certain equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight. At the CHSI facility, this would include the pumps, valves, flanges, piping and pressure relief devices found in the Tank Farm and the fuels blending system. The emissions control devices installed at the facility are not used to control the emissions from any Subpart BB regulated equipment, thus the requirements for emissions control systems under Subpart BB do not apply to these emissions control systems.

Table 5.1 lists the affected equipment types and summarizes the inspection, monitoring, record keeping and reporting requirements for each type of equipment. Appendix A contains the current list of all Subpart BB affected equipment at the CHSI facility.

BB.3.1 Description of Equipment

Subpart BB applies to the following equipment only when it is used to manage wastes with a volatile organic concentration in excess of 10%:

- Pumps
- Compressors
- Pressure Relief Devices
- Sampling connecting Systems
- Open Ended Valves or Lines
- Valves
- Flanges
- Other Connectors

BB.3.1.1 Equipment Identification

All equipment subject to Subpart BB standards is identified with unique identification numbers. The list of equipment and associated identification numbers may be found in Appendix A.

BB.3.1.2 Equipment Location

The location of each piece of equipment identified in Appendix A is shown on the following drawings:

CHCI 4207, Sheet 3 of 5
CHCI 4207, Sheet 4 of 5
CHCI 4207, Sheet 5 of 5
CHCI 4259
CHSI 4286

BB.3.1.3 Type of Equipment

BB.3.1.4 Percent Organics

For the purposes of complying with Subpart BB the waste managed in these units at CHSI is assumed to be at least 10% by weight organic material

BB.3.1.5 Waste State

For the purposes of complying with Subpart BB the waste managed in these units at CHSI is assumed to be at least 10% by weight organic material, and is also assumed to be in light liquid service or gas vapor service. This results in the most stringent leak detection requirements for the facility, thus ensuring compliance regardless of the composition of liquid in the affected processes.

In "light liquid" service means that the equipment contains or contacts a liquid mixture meeting the following three criteria:

1. Any one of the constituents has a vapor pressure in excess of 0.3 kPa (2.25 mm Hg or 0.003 atm) at 20 degrees C.

2. The constituents with a vapor pressure in excess of 0.3 kPa comprise at least 20% of the mixture by mass.

3. The mixture is a liquid at the operating conditions.

In "gas/vapor" service means that the equipment contains or contacts a hazardous waste stream that is in gas or vapor phase at operating conditions.

In "heavy liquid" service means that the equipment is not in "gas/vapor" or "light liquid" service.

BB.4.2 Pumps in Light Liquid Service

BB.4.2.2 Instrument

Monitoring shall be completed using a calibrated Flame Ionization Detector (FID).

BB.4.2.3 Calibration Plan

The specific methods to be used to complete the instrument calibration and monitoring are presented in Appendix C and D of this plan. The inspection and monitoring requirements of Subpart BB specify that the instrument used for monitoring be calibrated each day before use. Calibration is to be performed using methane or n-hexane as a reference standard (40 CFR 264.1063 (b) (4).

BB.4.2.4 Monthly Monitoring For Leaks

All gear pumps and centrifugal pumps affected by this plan shall be monitored monthly by methods specified in Appendix C.

All diaphragm pumps shall be designated as being in "No Detectable Emissions Service" because there are no penetrations of the pump housing. These pumps shall be visually inspected weekly for indications of leakage, and monitored with an instrument at least once per year to demonstrate compliance with the emissions standards. If indications of leakage are discovered during the visual inspection, the diaphragm pumps shall be monitored with an instrument within 5 days of the discovery of the potential leak. Confirmed leaks shall be repaired within 15 calendar days.

A list of all affected pumps and the methods for compliance can be found in Appendix A.

BB.4.2.1 Visual Inspection of Pump Seals

The pumps shall also be inspected visually once per week for indications of liquids dripping from the pump seal.

BB.4.2.4.1 Leak Detection and Identification

A leak is detected if: 1) the leak detection instrument reads 10,000 ppm or greater above background; or 2) there are indications of liquid dripping form the pump seal.

BB.4.3 Leak Repair as soon as Practicable

If a leak has been detected in a piece of equipment that is affected by this plan, the first attempt at repair shall occur within 5 calendar days of the detection of a leak and shall be completed within 15 calendar days unless a standard for Delay of Repair is met (See Table 5.2).

BB.4.3.1 First Attempts at Repair

First attempts at repair include, but are not limited to, the following best practices where possible:

(A) Tightening of bonnet bolts.
(B) Replacement of bonnet bolts.
(C) Tightening of packing gland nuts.
(D) Injection of lubricant into lubricated packing.

These first repair attempts are to be completed as soon as practicable after the discovery of the leak, and no later than 5 days after the discovery of the leak.

Leak Detection and Identification

When a leak is detected from pumps, valves, flanges or other connections a weatherproof and readily visible identification must be attached to the leaking piece of equipment. The following information must be included on this identification:

(A) The equipment identification number.
(B) The date the evidence of a potential leak was found.
(C) The date the leak was detected.

The identification on the piece of equipment, except for a valve, may be removed after the equipment is repaired.

The identification on a valve may be removed after is has been monitored for two successive months and no leak has been detected for those two months.

BB.5 Compressors

The facility does not operate compressors subject to Subpart BB.

BB.6 Pressure Relief Devices

BB.6.3.1 Instrument

Monitoring shall be completed using a calibrated Flame Ionization Detector (FID).

BB.6.3.2 Calibration Plan

The specific methods to be used to complete the instrument calibration and monitoring are presented in Appendix C and D of this plan. The inspection and monitoring requirements of Subpart BB specify that the instrument used for monitoring be calibrated each day before use. Calibration is to be performed using methane or n-hexane as a reference standard (40 CFR 264.1063 (b) (4).

BB.6.3.3 Monitoring Plan

All pressure relief devices subject to Subpart BB standards are operated with no detectable emissions (less than 500 ppm above background), except during pressure release. After each pressure release, the device shall be returned to a condition of no detectable emissions and monitored, by methods specified in Appendix C, to confirm no detectable emissions no later than 5 calendar days after each pressure release.

BB.7 Sampling Connection Systems

No closed loop sampling systems are installed at the CHSI facility. All sampling is through open-ended valves, which have been equipped with a cap, or plug, which is left, installed except when the valve is in use for sample collection. All purged process fluids collected during a sampling event shall be returned to the process, or to a hazardous waste tank or container that is operating in compliance with 40 CFR 264.1084 or 264.1086 standard.

BB.8 Open-Ended Valves or Lines

Each open-ended valve or line is equipped with a cap, blind flange, plug or a second valve. The cap, blind flange, plug, or second valve seals the open end at all times except during operations requiring hazardous waste stream flow through the line.

Each open-ended valve or line equipped with a second valve is operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

When a double block and bleed system is being used, the bleed valve or line may remain open during the operations that require venting the line between the block valves but will be operated in the manner describe above at all other times.

All valves affected by this plan shall be monitored monthly by methods specified in Appendix C. If the instrument reading is 10,000 ppm or greater above background, a leak is detected. Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months.

All affected flanges and connections such as threaded joints, welded joints, pipe unions, and pipe couplings shall be monitored, by methods specified in Appendix C, upon implementation of this compliance plan, and then within 5 calendar days if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. If the instrument reading is 10,000 ppm or greater above background, a leak is detected.

Leak Detection and Identification

When a leak is detected from pumps, valves, flanges or other connections a weatherproof and readily visible identification must be attached to the leaking piece of equipment. The following information must be included on this identification:

(A) The equipment identification number.
(D) The date the evidence of a potential leak was found.
(E) The date the leak was detected.

The identification on the piece of equipment, except for a valve, may be removed after the equipment is repaired.

The identification on a valve may be removed after is has been monitored for two successive months and no leak has been detected for those two months.

BB.7 Valves in Gas Vapor or Light Liquid Service

BB.8 Pumps and Valves in Heavy Liquid Service

All pumps and valves are in light liquid service.

BB.9.1.1 Instrument

Monitoring shall be completed using a calibrated Flame Ionization Detector (FID).

BB.9.1.2 Calibration Plan

The specific methods to be used to complete the instrument calibration and monitoring are presented in Appendix C and D of this plan.

BB.9.1.3 Monitoring Program

All valves affected by this plan shall be monitored monthly by methods specified in Appendix C. If the instrument reading is 10,000 ppm or greater above background, a leak is detected. Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months.

Leak Detection and Identification

When a leak is detected from pumps, valves, flanges or other connections a weatherproof and readily visible identification must be attached to the leaking piece of equipment. The following information must be included on this identification:

(A) The equipment identification number.
(F) The date the evidence of a potential leak was found.
(G) The date the leak was detected.

The identification on the piece of equipment, except for a valve, may be removed after the equipment is repaired.

The identification on a valve may be removed after is has been monitored for two successive months and no leak has been detected for those two months.

BB.9.3.2 Difficult to Monitor

CHSI is not identifying any items as difficult to monitor. See Table 6.1.

BB.10.2 Leak Detection Monitoring Program

BB.10.2.3 Monitoring Plan

Pumps

All gear pumps and centrifugal pumps affected by this plan shall be monitored monthly by methods specified in Appendix C. The pumps shall also be inspected visually once per week for indications of liquids dripping from the pump seal.

All diaphragm pumps shall be designated as being in "No Detectable Emissions Service" because there are no penetrations of the pump housing. These pumps shall be visually inspected weekly for indications of leakage, and monitored with an instrument at least once per year to demonstrate compliance with the emissions standards. If indications of leakage are discovered during the visual inspection, the diaphragm pumps shall be monitored with an instrument within 5 days of the discovery of the potential leak. Confirmed leaks shall be repaired within 15 calendar days.

A list of all affected pumps and the methods for compliance can be found in Appendix A.

Valves

All valves affected by this plan shall be monitored monthly by methods specified in Appendix C. If the instrument reading is 10,000 ppm or greater above background, a leak is detected. Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months.

Flanges and Other Connections

All affected flanges and connections such as threaded joints, welded joints, pipe unions, and pipe couplings shall be monitored, by methods specified in Appendix C, upon implementation of this compliance plan, and then within 5 calendar days if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. If the instrument reading is 10,000 ppm or greater above background, a leak is detected.

Pressure Relief Devices

All pressure relief devices regulated under this plan shall be operated with no detectable emissions (less than 500 ppm above background). After each pressure release, the device shall be returned to a condition of no detectable emissions and monitored, by methods specified in Appendix C, to confirm pressure release.

Control Device Monitoring

The control devices used at the CHSI facility are Carbon Absorption Systems that do not regenerate the carbon bed directly on site in the control device. The monitoring procedure for the control device includes:

(A) Monitoring the concentration level of the organic compounds in the exhaust vent stream from the carbon absorption system weekly; and

(B) Replacing the existing carbon with fresh carbon immediately when carbon breakthrough is indicated.

The procedures for this are discussed in more detail in "Closed Vent System and Control Device Standards" as regulated under the requirements of Subpart CC. The installed emissions from any Subpart BB regulated equipment.

BB.10.2.1 Instrument

Monitoring shall be completed using a calibrated Flame Ionization Detector (FID).

BB.10.2.2 Calibration Plan

The specific methods to be used to complete the instrument calibration and monitoring are presented in Appendix C and D of this plan. The inspection and monitoring requirements of Subpart BB specify that the instrument used for monitoring be calibrated each day before use. Calibration is to be performed using methane or n-hexane as a reference standard (40 CFR 264.1063 (b) (4).

Leak Detection and Identification

When a leak is detected from pumps, valves, flanges or other connections a weatherproof and readily visible identification must be attached to the leaking piece of equipment. The following information must be included on this identification:

(A) The equipment identification number.
(H) The date the evidence of a potential leak was found.
(I) The date the leak was detected.

The identification on the piece of equipment, except for a valve, may be removed after the equipment is repaired.

The identification on a valve may be removed after is has been monitored for two successive months and no leak has been detected for those two months.

BB.11 Delay of Repair

Repairs may be delayed under certain specific conditions. The allowable conditions are outlined in the following sections, and summarized in Table 5.2.

B.11.1 Delay of Repair by Unit Shutdown

A delay of repair will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. If this option is selected, then the repairs shall be completed before restarting the waste management unit to service after a shut down for any reason.

B.11.2 Delay of Repair by Equipment Isolation

A delay of repair of equipment will be allowed if the equipment is isolated from the hazardous waste management unit and does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

B.11.3 Delay of Repair for Valves by Excess Emissions from Purged Material

A delay of repair of a valve will be allowed if the emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair. If this option is selected, then the purged material shall be collected and destroyed or recovered in a control device complying with control device standards when the repair is performed.

B.11.4 Delay of Repair for Valves by Delay of Unit Restart

For valves found to require repair during a unit shutdown, the repair may be delayed beyond the unit restart provided that valve assembly supplies have been depleted and valve supplies has been sufficiently stocked before the supplies were depleted.

Delay of repair after the next hazardous waste management unit shutdown will not be allowed unless the shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

B.11.5 Delay of Repair for Pumps

A delay of repair for a pump will be allowed if:

(A) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and

(B) Repair is completed as soon as practicable, but not later than 6 months after the leak is detected.

BB.11 Closed Vent Systems and Control Devices That Must Comply with Subpart AA

The closed vent systems and control devices are subject to compliance with 40 CFR 264.1033 in Subpart AA.

BB.12 Alternative Monitoring Program

The facility is not electing to comply with the alternative monitoring program described in 40 CFR 264.1061.

Alternative Work Practice

The facility is not electing to comply with the alternative standards for valves in gas/vapor service or in light liquid service described in 40 CFR 264.1062.

BB.13 Record Keeping Requirements

The record keeping requirements, for compliance with Subpart BB, are contained in 40 CFR 264.1064. The record keeping requirements include Equipment Identification, Compliance Implementation Schedule, Leak Detection and Repair, Design Documentation, Delay of Repair and Waste Determination. The retention time for the required records is noted in each section below. Typically, design documents are required to be kept for the life of the facility, while operational records are to be kept for three years.

Appendix E contains a discussion of the design records and performance certification records required to be kept as part of the facility operating records. These design records shall be kept for the life of the facility.

B.13.1 Equipment Identification

The following information must be recorded and maintained for the life of the plant for each piece of equipment affected by this monitoring plan:

(A) Assigned equipment identification numbers.
(B) Hazardous Waste Management Unit associated with the equipment.
(C) Approximate location in the facility shown on a plot plan.
(D) Type of equipment (e.g. Pump, Valve, or Flange).
(E) Percent-by-weight total organics in the hazardous waste stream at the equipment.
(F) Hazardous waste state at the equipment (e.g. Gas, Vapor or Liquid).
(G) Method of compliance with the standard.

This information has been recorded in Appendix A.

BB.13.2 Implementation Schedule

The CHSI facility has installed the necessary equipment, and implemented the necessary inspection and maintenance procedures to comply with the requirements of Subpart BB. No written schedule for completion of additional Subpart BB activities is required to be incorporated into this plan.

BB.13.3 Leak Detection and Repair Records

When leaks are detected in any of the following equipment:

(A) Pumps in Light Liquid Service (264.1052)
(B) Compressors (264.??????)
(C) Valves in Gas/Vapor or Light Liquid Service (264.1057)
(D) Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light or heavy Liquid Service, and Flanges or Other Connectors (264.1058)

The following records shall be maintained (for a period of three years):

(A) General Monitoring Information

- Monitoring instrument and equipment operator identification numbers.
- Equipment Identification numbers.

(B) Leak Detection Information

- The date evidence of a potential leak was found.
- The date the leak was detected and the dates of each attempt to repair the leak.
- Repair methods applied in each attempt to repair the leak.
- "Above 10,000 ppm" if reading after each attempt is greater than
  10,000 ppm above background.

Each required inspection and repair must be recorded. An inspection and repair log form is included in Appendix F. This form shall be completed for each repair and entered into the facility compliance log. The inspection records shall be downloaded from the inspection equipment, and printed out by computer. The printed log shall be included in the facility compliance record.

If repairs are delayed, then the records described in section BB.14.5 shall also be maintained.

BB.13.4 Design Records

Design records shall be kept up to date for the regulated emissions vents. The CHSI facility has no devices used to control emissions from Subpart BB regulated equipment therefore the requirement to record the design information does not apply.

BB.13.5 Delay of Repair

If the completion of a repair is delayed beyond 15 calendar days, the following information must be recorded:

(A) "Repair delayed" and the reason for the delay if it is not repaired within 15 days.
(B) Supporting documentation for the delay.
(C) Signature of person who authorizes the delay.
(D) Expected date of repair.
(E) The date of successful repair.

The Inspection and Leak Repair Form in Appendix F includes spaces for recording the necessary information.

BB.13.6 Waste Determination

Subpart BB requires that Waste Determination documentation be kept if this information is used to claim exemptions for certain equipment subject to Subpart BB. At the CHSI facility, all equipment is assumed to be subject to the requirements of Subpart BB, thus no waste determination documentation is retained for the purposes of compliance with this specific requirement.

BB.15 Reporting Requirements

CHSI is required to report compliance activities under Subpart BB to the Agency every six months. The reporting requirements are outlined below and are found also in 40 CFR 264.1065.

BB.15.1 Semi-Annual Reporting Requirements

Once every six months, the facility shall submit a report to the Regional Administrator, which includes the following information:

(A) The Facility EPA Identification number, the name and address of the facility

(B) A report for each month of operations that includes:

1) The Equipment ID Number for each valve, which was not repaired within 15 days of the detection of a leak.

2) The equipment ID Number for each pump which was not repaired within 15 days of the detection of a leak.

3) The equipment ID Number for each compressor which was not repaired within 15 days of the detection of a leak.

(C) Dates of Hazardous Waste Management Unit shut downs.

(D) Dates when the Carbon Beds used for emissions control were not serviced within 24 hours of discovery of breakthrough.

(E) Dates when tank and process emissions were not directed to the activated carbon beds for periods in excess of 24 hours.

(F) Dates when waste in excess of 10% VO content are introduced into the raffinate system.

BB.15.2 Option to Not Report

If the facility does not experience any reportable events as described above, then no report is required to be filed with the Agency. This option must be reviewed each 6 months to determine if a report must be filed for the most recent six-month period.

SECTION CC
AIR EMISSIONS STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS AND CONTAINERS

CC.1 Exemptions from Subpart CC 724.980(b), (d)

Clean Harbors Services, Inc. (CHSI) has four (4) surface impoundments at the facility, which were certified as closed in April, 1994 in accordance with RCRA closure requirements. Therefore, these waste management units are exempt from the requirements of Subpart CC.

CHSI also handles containers with a design capacity less than or equal to 0.1 cubic meters (26.4 gallons). All containers with a design capacity less than or equal to 0.1 cubic meters are exempt from the requirements of Subpart CC.

CC.2 Exemptions from 724.984 through 724.987 724.982(c)

CHSI has several approved/not yet constructed tanks for which all hazardous waste entering the unit has an average volatile organic concentration at the point of origination of less than 500 parts per million by weight (ppmw). These tanks include:

Tank No.	No. of Units	Description
121	6	Storage Tanks (Unit Y)
155	2	Storage Tanks (Unit Y)
123	1	Reactor Vessel (Unit Z)
137	1	Lamella Clarifier (Unit Z)
138	1	Clarifier Waste Collection Tank (Unit Z)
142	1	Sludge Conditioning Tank (Unit Z)
149	2	Sand Filter (Unit Z)
150	1	Backwash Collection Tank (Unit Z)
152	2	Carbon Adsorption Unit (Unit Z)
153	1	Treated Effluent Tank (Unit Z)

CHSI is also approved to stabilize hazardous waste on-site in the approved/not yet constructed Building #3. Only wastes, containing less than 500 ppmw average volatile organic concentration at the point of origin, will be stabilized on-site.

CC.3 Standards for Tanks 724.984

CC.3.1 General Information

The CHSI facility has existing tanks and approved/not yet constructed tanks, which are subject to Subpart CC. None of the tanks are heated. Waste stabilization does not occur in any of the tanks. The tanks subject to this standard include:

Existing

Unit 16 Flammable Storage Tank Farm

Tank	Design Capacity	Max. Organic Vapor Pressure	Level of Control
101	12,800 gallons	> 76.7 kPa	2
102	12,800 gallons	> 76.7 kPa	2
103	12,800 gallons	> 76.7 kPa	2
104	12,800 gallons	> 76.7 kPa	2
105	12,800 gallons	> 76.7 kPa	2
106	12,800 gallons	> 76.7 kPa	2
107	12,800 gallons	> 76.7 kPa	2
109	12,800 gallons	> 76.7 kPa	2
110	12,800 gallons	> 76.7 kPa	2
112	19,800 gallons	> 76.7 kPa	2

Unit 43 Hazardous Waste Fuel Blending Operation

Tank	Design Capacity	Max. Organic Vapor Pressure	Level of Control
161-21	1,225 gallons	> 76.7 kPa	2
161-22	275 gallons	> 76.7 kPa	2

Approved/Not Yet Constructed

Unit 22 Flammable Storage Tank Farm

Tank	Design Capacity	Max. Organic Vapor Pressure	Level of Control
414	3,490 gallons	> 76.7 kPa	2
415	10,558 gallons	> 76.7 kPa	2
416	10,558 gallons	> 76.7 kPa	2
417	15,547 gallons	> 76.7 kPa	2
418	6,136 gallons	> 76.7 kPa	2
424	3,730 gallons	> 76.7 kPa	2
427	987 gallons	> 76.7 kPa	2

CC.3.2 Level 1 Controls for Tanks

CHSI is not operating any tanks subject to Subpart CC under Level 1 tank emission controls.

CC.3.2.1 Fixed Roof Design

For each tank, subject to Subpart CC, which CHSI operates:

(A) The fixed roof and its closure devices are designed to form a continuous barrier over the entire surface area of waste in the tank;

(B) There are no visible cracks, holes, gaps or other open spaces between the roof section joints or between the interface of the roof edge and tank wall;

(C) Each opening in the fixed roof is equipped with a closure device or connected to a closed vent that is vented to an air emissions control system; and

(D) The fixed roof and closure devices are made of materials that will minimize waste exposure to the atmosphere and maintain equipment integrity for as long as it is in service.

CC.3.2.2 Closure Devices

For each tank subject to Subpart CC which CHSI operates, whenever a hazardous waste is in the tank, the fixed roof is installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(A) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(i) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations.
(ii) To remove accumulated sludge or other residues from the bottom of the tank.

(B) Opening of a safety device, as defined by 725.981, is allowed any time conditions require doing so to avoid an unsafe condition.

Each of the tanks have design capacities of less than 19,863 gallons. However, since these may manage volatile organics with a Maximum Organic Vapor Pressure (MOVP) exceeding Level 1 criteria, the tanks will be subject to Level 2 tank emission controls.

CC.3.3Level 2 Controls for Tanks

CC.3.3.1 Design

The CHSI facility has existing tanks and approved/not yet constructed tanks which are vented through a closed vent system to a control device which meets the requirements of 724.985(g). Design specification for these tanks are included in Section D, Table 6. Design drawings for tanks subject to Subpart CC include:

CHCI 4207 (Sheet 3 of 5)
CHCI 4207 (Sheet 4 of 5)
CHCI 4207 (Sheet 5 of 5)
CHCI 4215
CHCI 4252
CHCI 4259
CHSI 4286
CHSI 4287
CHSI 4290
CHSI 4291
CHSI 4293
CHSI 4294
CHSI 4295
CHSI 4296
CHSI 4297B
CHSI 4298B
Black Clawson 22375910-1
Black Clawson 22375910-2

Based on the MOVP of the hazardous waste stored in these tanks, emissions from these tanks are subject to Level 2 controls. Each opening in the fixed roof is designed with a closure device that seals the opening when in the closed position (See CC.3.2.1 above). Each tank is equipped with a conservation vent (pressure relief device) connected to the closed vent system and carbon adsorption system used to control process vent emissions. The closure devices are opened only to perform routine inspections, maintenance, or other activities required for normal operation (See CC.3.2.2 above). Documentation on the closed vent system and carbon adsorption system is in Attachment CC-1.

The fixed roof and closure devices, on each tank, are visually inspected for defects at least annually. Any defects discovered are repaired in accordance with the tank repair procedure described in Attachment CC-2.

Waste is transferred into and out of each tank using hard-piping that does not allow exposure of the waste to the atmosphere.

CC.3.3.2 Closure Devices/Closed Vent Systems

For each tank subject to Subpart CC which CHSI operates:

(A) The fixed roof and its closure devices are designed to form a continuous barrier over the entire surface area of waste in the tank;

(B) There are no visible cracks, holes, gaps or other open spaces between the roof section joints or between the interface of the roof edge and tank wall;

(C) Each opening in the fixed roof is equipped with a closure device or connected to a closed vent that is vented to an air emissions control system;

(D) The fixed roof and closure devices are made of materials that will minimize waste exposure to the atmosphere and maintain equipment integrity for as long as it is in service;

(E) The closed vent system and control device are designed and operated in accordance with the requirements of 724.987.

For each tank subject to Subpart CC which CHSI operates, whenever a hazardous waste is in the tank, the fixed roof is installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(A) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

   (i) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations.
   (ii) To remove accumulated sludge or other residues from the bottom of the tank.

(B) Opening of a safety device, as defined by 725.981, is allowed any time conditions require doing so to avoid an unsafe condition.

CC.4 Standards for Surface Impoundments

Clean Harbors Services, Inc. (CHSI) has four (4) surface impoundments at the facility, which were certified as closed in April, 1994 in accordance with RCRA closure requirements. Therefore, these waste management units are exempt from the requirements of Subpart CC.

CC.5 Standards for Containers 724.986

CHSI operates the following container areas where containers subject to Subpart CC are stored:

Existing CHSI Drum/Roll-off/Transportation Vehicle Storage Units

Drum Storage Area (Unit G1)
Drum Storage Area (Unit R1)
Drum Storage Area Expansion (Unit R2)
Lab Pack Pouroff Station (Unit F1)
Container Storage Building (Unit 25 & 67)
Ignitable Container Management Building (Unit 26)
Container Handling Dock (Unit 61)
Bulk Container Storage Area (Unit Q1)
Bulk Solids Storage Pad (Unit B)
Truck Unloading Area (Unit Q)
Truck loading Dock (Unit V)
Truck Unloading Platform (Unit 15)
Truck Staging Area (Unit 59)
Truck Pad (Unit 62)
Truck Staging Area (Unit C)

II. Approved/Not Yet Constructed CHSI Drum/Roll-off/Transportation Vehicle Storage Units

Drum Storage Area Expansion (Unit R2)
The Lab Pack Repack and Consolidation Area (Unit U)
The Paint and Paint Related Processing Area (Building 42)
Shredder Process Building (Unit 24)
Metalwash Pad (Unit 68)
Listed Waste Roll-off (Unit Z1)
Truck Loading/Unloading Pad (Unit X)
Truck-to-Truck Transfer Pad (Unit W)
Truck Loading/Unloading Pad (Unit 69)

CHSI also handles containers in the RCRA exempt CWA wastewater treatment process area and in satellite/accumulation areas as a hazardous waste generator.

For each container subject to Subpart CC, CHSI will control air pollutant emissions in accordance with the following:

(A) For a container having a design capacity greater than 26 gallons and less than or equal to 120 gallons, CHSI shall control air pollutant emissions from the container in accordance with Container Level 1 standards.

(B) For a container having a design capacity greater than 120 gallons that is not in light material service, CHSI shall control air pollutant emissions from the container in accordance with Container Level 1 standards.
(C) For a container having a design capacity greater than 120 gallons that is in light material service, CHSI shall control air pollutant emissions from the container in accordance with Container Level 2 standards.

CHSI has approval for hazardous waste treatment by waste stabilization in containers. CHSI will only stabilize wastes containing less than 500 ppmw, which are not subject to Subpart CC requirements.

CC.5.1Level 1 Standards 724.986(c)

For each container using Level 1 container emission controls, CHSI will use one of the following types of container Level 1 controls:

(A) A container that meets U. S. DOT packaging regulations specified in 49 CFR 178 and 179; or

(B) A container that is equipped with a cover and closure devices that form a continuous barrier over the container openings such that when secured, there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover (e.g., lid on a drum, tarp on a roll-off) or may be an integral part of the container structural design (e.g., a portable tank); or

(C) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste such that no hazardous waste is exposed to the atmosphere (e.g., a vapor suppressing foam).

All "DOT containers" that are used to comply with Level 1 (or Level 2) containers controls must meet the following DOT regulations on packaging of hazardous materials:

(A) The container must comply with:

(1) 49 CFR 178 - Specifications for Packaging, or
(2) 49 CFR 179 - Specifications for Tank Cars.

(B) The hazardous waste is managed in the container in accordance with:

(1) 49 CFR 107, Subpart B - Exemptions
(2) 49 CFR 172 - HMT, Special Provisions, Communication, Emergency Response, & Training

(3) 49 CFR 173 - General Requirements for Shippers and Packages
(4) 49 CFR 180 - Continuing Qualification and Maintenance of Packaging

DOT exception packaging allowed in 49 CFR Part 178 & 179 is not considered to be a "DOT container" that is exempt from Subpart CC air controls/monitoring, and must be managed under Level 2 controls (i.e. operate with no detectable emission, or as a "vapor-tight" container). However, lab packs that are packed in accordance with 49 CFR 173.12(b) and managed in accordance with 49 CFR 178 are considered to be "DOT containers" for the purposes of complying with Subpart CC.

CC.5.1.2 Covers and Closure Devices

Under Level 1 controls, all covers and closure devices must be composed of materials that are suitable to minimize waste exposure to the atmosphere and maintain equipment integrity for as long as it is in service. Containers are required to be constructed of materials compatible with the wastes, so organic vapors and effects of contact with the waste or its vapor, are minimized. For covers which are not the same material of construction as the container itself, the cover must be of a material which is compatible with the waste and its organic vapors. Additionally, the material of the cover must maintain integrity from effects of outdoor exposure such as wind, moisture and sunlight; and be compatible with the operating practices for which the container is intended to be used.

Covers and closure devices must be secured and closed at all times, except in the following cases:

(A) Adding waste or other material is allowed, provided:

(1) For continuous filling to the final level, closure devices and covers must be secured upon conclusion of the filling operation.

(2) For intermittent filling to final level, closure devices and covers must be re-secured/re-closed when:
(a) Final volume is reached
(b) Completion of batch with no material additions within 15 minutes
(c) Person loading the container leaves the immediate vicinity, or
(d) Process generating the waste is shutdown

(B) Removing waste is allowed, provided:

(1) RCRA-empty containers (per 261.7(b) do not require a secured/closed cover or closure device.

(2) For intermittent removal operations, the closure and covers must be re-secured/re-closed when:
   (a) Removal operation is complete but container is not RCRA-empty,
   (b) Completion of batch with no material removals within 15 minutes, or
   (c) Person unloading the container leaves the immediate vicinity.

(C) Opening of a closure device or cover is allowed when access to the inside of the container is needed to perform routine activities other than transfer operations. Examples include opening ports or manholes to sample the waste or access equipment in the container. Following completion of the activity, the cover or closure device must be secured/closed.

(D) Pressure-relief, conservation vents, and similar devices, which vent to the atmosphere, are allowed during normal operating conditions for the purpose of maintaining containers internal pressure in accordance with the design specifications of the container. The device must be designed to operate with no detectable emissions when the device is secured in the closed position. The setting of the device must be established based on manufacturer recommendations, fire protection codes, standard engineering practices, etc.

(E) Opening of a safety device, as defined in 725.981, is allowed at any time conditions require doing so to avoid an unsafe condition.

CC.5.2 Level 2 Standards 724.986(d)

For each container using Level 2 container emission controls, CHSI will use one of the following types of container Level 2 controls:

(A) A container that meets U.S. DOT packaging regulations; or

(B) A container that operates with "no detectable organic emissions" as determined through the monitoring of all closures using a PID, FID, or similar instrument in accordance with 724.986(g); or

(C) A container that has been demonstrated within the preceding 12 months to be vapor-tight using Method 27 in 40 CFR 60 Appendix A in accordance with the procedures specified in 724.986(h).

CC.5.2.2 Covers, Closure Devices, Pressure Relief Device and Safety Device

Under Level 2 controls, all covers and closure devices must be composed of materials that are suitable to minimize waste exposure to the atmosphere and maintain equipment integrity for as long as it is in service. Containers are required to be constructed of materials compatible with the wastes, so organic vapors and effects of contact with the waste or its vapor are minimized. For covers, which are not the same material of construction as the container itself (e.g., tarp on a roll-off container), the cover must be of a material which is compatible with the waste and its organic vapors. Additionally, the material of the cover must maintain integrity from effects of outdoor exposure such as wind, moisture and sunlight; and be compatible with the operating practices for which the container is intended to be used.

Covers and closure devices must be secured and closed at all times, except in the following cases:

(A) Adding waste or other material is allowed, provided:

(1) For continuous filling to the final level, closure devices and covers must be secured upon conclusion of the filling operation.

(2) For intermittent filling to final level, closure devices and covers must be re-secured/re-closed when:

i. Final volume is reached
ii. Completion of batch with no material additions within 15 minutes
iii. Person loading the container leaves the immediate vicinity, or
iv. Process generating the waste is shutdown

(B) Removing waste is allowed, provided:

(1) RCRA-empty containers (per 261.7(b) do not require a secured/closed cover or closure device

(2) For intermittent removal operations, the closure and covers must be re-secured/re-closed when:

i. Removal operation is complete but container is not RCRA-empty
ii. Completion of batch with no material removals within 15 minutes, or
iii. Person unloading the container leaves the immediate vicinity.

(C) Opening of a closure device or cover is allowed when access to the inside of the container is needed to perform routine activities other than transfer operations. Examples include opening ports or manholes to sample the waste or access equipment in the container. Following completion of the activity, the cover or closure device must be secured/closed.

(D) Pressure-relief, conservation vents, and similar devices, which vent to the atmosphere, are allowed during normal operating conditions for the purpose of maintaining containers internal pressure in accordance with the design specifications of the container. The device must be designed to operate with no detectable emissions when the device is secured in the closed position. The setting of the device must be established based on manufacturer recommendations, fire protection codes, standard engineering practices, etc.

(E) Opening of a safety device, as defined in 725.981, is allowed at any time conditions require doing so to avoid an unsafe condition.

Transfers in/out of a Level 2 container must be conducted in a manner that minimizes exposure of hazardous waste to the atmosphere. Examples of acceptable loading procedures include submerged fill, vapor balancing, or vapor recovery.

The procedure specified in 724.986(g) must be used to demonstrate that a container is operating with no detectable organic emissions. Under that procedure, each potential leak interface on the container, cover, and associated closure devices must be checked. Interfaces included, but are not limited to, the interface of the cover rim and the container wall, the periphery of any opening on the container, and the sealing seat interface on a spring-loaded pressure-relief valve. The test must be conducted when the container is filled with a material having a VO concentration representative of the VO concentrations for the hazardous waste expected to manage in the container. The cover and all closure devices must remain closed during the test.

The procedure specified in 40 CFR 60 Appendix A, Method 27, must be used to demonstrate that a container is vapor-tight. The test must be performed in accordance with Method 27 requirements using a pressure measurement device that has a precision of +/- 2.5 mm water and that is capable of pressure measurements above the pressure at which the container is to be tested. The container is considered vapor-tight when it sustains a pressure change of less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals.

CC.5.3Level 3 Standards

CHSI has approval for hazardous waste treatment by waste stabilization in containers. CHSI will only stabilize wastes containing less than 500 ppmw, which are not subject to Subpart CC requirements. Therefore, CHSI is not using any Container Level 3 controls.

CC.5.3.1 Identify Type of Control
CC.5.3.2 Design Information
CC.5.3.3 Record Keeping Procedures

These sections are not applicable because CHSI is not using any Container Level 3 controls.

CC.6 Waste Transfer 724.984(j), 724.985(e), 724.896(d)(2)

Transfers of hazardous waste to a tank from another tank subject to Subpart CC are conducted using continuous hard-piping that does not allow exposure of hazardous waste to the atmosphere. Carbon and stainless steel piping are used to transfer hazardous waste between tanks regulated by Subpart CC. The tanks subject to Subpart CC are equipped with fixed roofs and permanent submerged fill pipes.

CHSI does not operate any surface impoundments regulated by Subpart CC.

Transfers in/out of a Level 2 container are conducted in a manner that minimizes exposure of hazardous waste to the atmosphere. Examples of acceptable loading procedures include submerged fill, vapor balancing, or vapor recovery to collect and control vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

CC.7 Repairs 724.984(k), 724.985(f), 724.986(c)(4)(C), 724.986(d)(4)(C)

Both Level 1 and Level 2 tanks require a visual inspection to check for defects including, but no limited to:

(A) Visible cracks, holes or gaps in the roof sections or between the roof and the tank wall;

(B) Broken, cracked or otherwise damaged seals or gaskets on closure devices; and

(C) Broken or missing hatches, access covers, or other closure devices.

The initial inspection must be performed on or before the date the tank becomes subject to Subpart CC. Thereafter, the inspections are performed at least once per year.

For containers under Subpart CC, the Level 1 and Level 2 inspection requirements (e.g., inspections, no air monitoring, etc.) for DOT containers, Non-DOT containers and DOT-exemption containers are identical. Therefore, the inspection requirements that apply to Level 1 and Level 2 containers are:

(A) The container will be visually inspected within 24 hours after a non-RCRA empty container is accepted at the CHSI facility. The inspection shall be conducted to ensure that the container is equipped with a cover and closure devices that form a continuous barrier over the container openings such that when secured there are not visible holes, gaps or other open spaces into the interior of the container. The inspection will be conducted as part of the facility's normal waste receiving procedures (i.e., at the same time as the facility's conformance testing). Documentation of the visual inspection is not required.

(B) Any container in storage for more than one year from date of receipt shall be visually re-inspected.

CC.7.1 First Repair Attempt

If a defect for a tank is noted during an inspection, the first efforts at repair on the defect must occur no later than five (5) calendar days after detection, and shall be completed as soon as possible, but no later than forty-five (45) calendar days after detection.

If a defect for a container is detected during an inspection, the first effort at repair must be made within 24 hours of inspection and completed as soon as possible but no later than five (5) calendar days from receipt. If the repair cannot be completed with 5 days, then the waste must be removed from the container or the container must be over packed in a compatible DOT salvage drum.

CC.7.2 Delay of Repairs

Repair of the defect for a tank may be delayed beyond 45 days if the repair requires emptying or temporarily removing the tank from service for repair and no alternative tank capacity is available at the facility to accept the waste that is normally managed in the defective tank. In the case of a delayed repair, the repair shall be made the next time the process or unit that is generating the waste managed in the defect tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

Clean Harbors Services, Inc. (CHSI) has four (4) surface impoundments at the facility, which were certified as closed in April, 1994 in accordance with RCRA closure requirements. Therefore, these waste management units are exempt from the requirements of Subpart CC.

CC.8 Standards for Closed Vent Systems and Control Devices

In accordance with 40 CFR 265.1084(d)(3), organic vapors from storage tanks requiring Level 2 air controls must be controlled using one of five (5) authorized design/operations options. For fixed-roof tanks such as those in use at CHSI, 724.987(b) & (c) require the organic vapors to be routed through closed vent systems to control equipment (e.g., carbon adsorption beds) that provides a minimum organic removal efficiency of 95% by weight. The closed vent systems, connecting the tanks (Units 16, 43 & 22) to the control devices (carbon adsorption beds), are hard-pipe designed and operated with no detectable emissions, as indicated by an instrument reading of <500 ppmv above background as determined by methods specified at 724.934(b) and visual inspections. Any closed vent and control device systems installed for the purpose of complying with Subpart CC shall be inspected in accordance with 724.933(l). Upon initial operation, all potential leak interfaces shall be visually inspected for cracks, gaps, holes, or other defects, and the system shall be tested using the leak detection procedures at 724.934(b) to determine that the system is operating with no detectable organic emissions (i.e., organic concentration less than 500 ppmv above background). The visual inspection and leak detection shall be repeated at least once annually, and after all repairs/replacement activities.

Repairs of the closed vents and control systems shall be conducted in accordance with the requirements of 40 CFR 264.1033(l)(3). That is, the first effort at repair shall be made no later than five (5) days after detection on the defect, with all repairs being completed with fifteen (15) days of detection. Delay of repair is allowed only in cases where it is technically infeasible to conduct the repair without a shutdown of the system, or if the emissions from the repair activity would exceed the emissions which would occur if repair are delayed until the next planned shutdown.

The carbon shall be replaced when "breakthrough" is detected. Breakthrough shall be determined based on daily monitoring of the organic emissions. Replacement upon breakthrough is required in accordance with 724.933(h). The absorber systems for the tanks consist of two canisters in series. Breakthrough of the carbon system shall be deemed to have occurred when the outlet concentration of total VO from the first canister is greater than 15% of the inlet VO concentration. This shall be calculated by the following:

$$\frac{\text{VO (outlet)}}{\text{VO (inlet)}} \times 100 > 15$$

The first carbon unit shall be replaced within 24 hours of breakthrough. Service shall be completed by removing the primary canister and replacing it with the secondary canister, and then installing a new canister in the secondary position. This will ensure full utilization of all carbon beds. One spare canister shall be kept on-site to ensure that replacement can be completed as required. VO concentration will be determined using a Flame Ionization Detector (FID). The FID will be calibrated prior to each use in accordance with the manufacturer's instructions using a detection limit of 10 ppm or less of methane or n-hexane in air. Calibration methods are included in Appendix D.

The closed vent systems design does not include devices, which allow the carbon adsorption beds to be bypassed. The carbon adsorption systems have a control efficiency of at least 95% by weight. CHSI does not regenerate the carbon beds on-site. The carbon beds are regenerated in a thermal treatment unit that meets the requirements of 724.933(n).

The following information will be maintained for the closed vent systems and emission control devices subject to Subpart CC (i.e., the closed vent systems and the granular activated carbon units associated with the bulk storage tanks and the fuels dispersion and shredding systems):

(A) Signed and dated certification that the control device is designed to operate at a performance level documented by a design analysis as specified in (1) or by the performance test specified in (2), below:

(1) Design Analysis - If a design analysis is used, then the following design information specified in 40 CFR 265.1035(b)(4) must be documented and maintained:

(a) A list of information references and sources used in preparing the documentation

(b) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 41: Control of Gaseous Emissions" or other engineering texts acceptable to the Regional Administrator that present basic control device design information

(c) For carbon adsorption systems that do not regenerate on-site, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of the carbon bed, type and working capacity of the activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule

(d) A statement signed and dated by the owner/operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur;

(e) A statement signed and dated by the owner/operator certifying that the control device is designed to operate at 95% efficiency or greater unless the total organic concentration limit of 40 CFR 265.1032(a) is achieved at an efficiency less than 95% by weight. Or the total organic emission limits of 265.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95% by weight. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(2) If performance testing is used, then the following design information specified in 40 CFR 265.105(b)(3) must be documented and maintained:

(a) A test plan, which includes the following:

A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur

- the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program

A detailed engineering description of the closed vent system and control device including:
Manufacturer's name and model number
Type of control device
Dimensions
Capacity
Construction material

A detailed description of sampling and monitoring procedures, including sampling and monitoring locations, equipment to be used, sampling and monitoring frequency and planned analytical procedures for sample analysis

(b) All results and data from the performance test

(B) Design documentation and monitoring, operating and inspection information for each closed vent control system and control device shall be recorded and kept up-to-date. This information shall include:

(1) Description and date of each modification that is made to the closed vent system or control device design

(2) Identification of operating parameters, description of monitoring devices, and diagram of monitoring sensor location (s) used to comply with 40 CFR 265.1033(f)(1) and (2).

(C) On a semi-annual basis, the following information shall be recorded and maintained for all planned, routine maintenance of the carbon adsorption systems which results in the carbon system failing to reduce the total organic content of the inlet vapor stream by at least 95% by weight:

(1) A description of the planned events to be performed during the next 6-month period, including type of maintenance, planned frequency of maintenance, and length of maintenance period

(2) A description of the planned events that were performed during the pervious 6-month period, including the type of maintenance performed and the total number of hours during the 6 month period when the device did not achieve at least 95% removal efficiency due to planned maintenance.

(D) The following information shall be recorded and maintained for all unexpected malfunctions of the carbon adsorption systems which result in the carbon system failing to reduce the total organic content of the inlet vapor stream by at least 95% by weight:

(1) Occurrence and duration of each malfunction

(2) Duration of each period when emissions are fed into the carbon adsorption unit when the unit is not properly functioning

(3) Actions taken during the malfunction period to restore the unit to its normal manner of operation

(E) Records of management of carbon removed from a carbon adsorption unit. Note, per 40 CFR 265.1088(c)(3)(iii), all carbon removed from the control devices shall be managed per the requirements of 40 CFR 265.1033 (m) below regardless of the volatile organic concentration:

(1) Regenerated/reactivated in a Subpart X unit;

(2) Incinerated as a hazardous waste

(3) Burned in an industrial furnace or boiler

CC.9 Inspection and Monitoring Requirements 724.988

As discussed above, the only regulated units presently subject to Subpart CC at the CHSI facility are tanks (and their associated closed vents and emission control devices) and containers. The inspection and monitoring requirements applicable to these units are provided below.

Tanks

A summary of inspection requirements for tanks subject to Subpart CC is provided in **Table 6-1.**

Both Level 1 and Level 2 tanks require a visual inspection to check for defects including, but no limited to:

(A) Visible cracks, holes or gaps in the roof sections or between the roof and the tank wall;

(B) Broken, cracked or otherwise damaged seals or gaskets on closure devices; and

(C) Broken or missing hatches, access covers, or other closure devices.

This visual inspection must be conducted on or before the tank becomes subject to Subpart CC and annually thereafter. The results of the inspections must be documented and maintained on-site.

If a defect is noted during an inspection, the first efforts at repair on the defect must occur no later than five (5) calendar days after detection, and shall be completed as soon as possible, but no later than forty-five (45) calendar days after detection. Repair of the defect may be delayed beyond 45 days if the repair requires emptying or temporarily removing the tank from service for repair and no alternative tank capacity is available at the facility to accept the waste that is normally managed in the defective tank. In the case of a delayed repair, the repair shall be made the next time the process or unit, that is generating the waste managed in the defect tank, stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

Closed-vent System and Control Devices

Any closed vent and control device systems installed for the purpose of complying with Subpart CC shall be inspected in accordance with 40 CFR 264.1033(k)(1). Upon initial operation, all potential leak interfaces shall be visually inspected for cracks, gaps, holes, or other defects, and the system shall be tested using the leak detection procedures at 40 CFR 264.1034(b) to determine that the system is operating with no detectable organic emissions (i.e., organic concentration less than 500 ppmv above background). The visual inspection and leak detection shall be repeated at least once annually, and after all repairs/replacement activities.

Repairs of the closed vents and control systems shall be conducted in accordance with the requirements of 40 CFR 264.1033(1)(3). That is, the first effort at repair shall be made no later than 5 days after detection on the defect, with all repairs being completed with 15 days of detection. Delay of repair is allowed only in cases where it is technically infeasible to conduct the repair without a shutdown of the system, or if the emissions from the repair activity would exceed the emissions which would occur if repair are delayed until the next planned shutdown.

The carbon shall be replaced when "breakthrough" is detected. Breakthrough shall be determined based on weekly monitoring of the organic emissions. Replacement upon breakthrough is required in accordance with 40 CFR 264.1033(h). The absorber systems for the tanks consist of two canisters in series. Breakthrough of the carbon system shall be deemed to have occurred when the outlet concentration of total VO from the first canister is greater than 15% of the inlet VO concentration. This shall be calculated by the following:

$$\frac{\text{VO (outlet)}}{\text{VO (inlet)}} \times 100 > 15$$

The first carbon unit shall be replaced with 24 hours of breakthrough. Service shall be completed by removing the primary canister and replacing it with the secondary canister, and then installing a new canister in the secondary position. This will ensure full utilization of all carbon beds. One spare canister shall be kept on-site to ensure that replacement can be completed as required. VO concentration will be determined using a FID. The FID will be calibrated prior to each use in accordance with the manufacturer's instructions using a detection limit of 10 ppm or less of methane or n-hexane in air. Calibration methods are included in Appendix D.

Containers

The CHSI facility manages hazardous wastes in a variety of containers. Subpart CC requirements differ based on the capacity of the container, whether it holds hazardous waste that is "in light material service", and whether the container is to be used for stabilization treatment processes.

The regulatory requirements for each of the containers classes are presented here. The requirements for containers are also summarized below and in Table 6.2

Containers Less Than 26 Gallons Design Capacity

Containers with a design capacity of less than 26 gallons are exempt from RCRA Subpart CC regardless of the VO concentration of the hazardous waste.

Containers Between 26 and 119-Gallon Design Capacity

CHSI accepts hazardous waste in containers with a design capacity between 26 and 119 gallons. Some of these containers may contain hazardous waste which has a volatile organic concentration of 500 ppm or greater and is subject to RCRA Subpart CC standards. To ensure consistency and ease of implementation, CHSI shall assume that all containers with a design capacity between 26 and 119 gallons are subject to Subpart CC, even if the container, in fact, contains waste with less than 500 ppmv VO concentrations. Containers between 26 and 119 gallons, which contain a hazardous waste with equal to or greater than 500 ppmw VO, are subject to Level 1 container standards.

Containers between 26 and 119 gallons design capacity which are received at CHSI may be designed to meet a DOT performance specification under 49 CFR part 178, or may be non-DOT or DOT-exemption packaging.

Containers that meet the definition of "RCRA-empty" under 40 CFR 261.7 are exempt from Subpart CC requirements.

Under Subpart CC, the Level 1 inspection requirements for DOT containers, non-DOT containers, and DOT-exemption packaging with a design capacity between 26 and 119 gallons are the same, and are provided below:

(A) All non-RCRA empty containers will be visually inspected within 24 hours after they are accepted at the CHSI facility. The inspection shall be conducted to ensure that the container is equipped with a cover and closure devices that form a continuous barrier over the container openings such that when secured, there are no visible holes, gaps or other open spaces into the interior of the container. The inspection will be conducted as part of the facility's normal waste receiving procedures (i.e., at the same time as the facility's conformance testing). Documentation of the visual inspection is not required.

(B) Any container in storage for more than one year from the date of receipt shall be visually re-inspected.

If a defect is detected during an inspection, the first effort at repair must be made within 24 hours of inspection and completed as soon as possible, but no later than five (5) calendar days from receipt. If the repair cannot be completed within 5 days, then the waste must be removed from the container or the container must be over packed in a compatible DOT salvage drum.

Containers Greater Than 119-Gallon Design Capacity

CHSI accepts hazardous waste in containers with a design capacity greater than 119 gallons. Some of these containers may contain hazardous waste which has a VO concentration of 500 ppm by weight or greater and are subject to RCRA Subpart CC standards. Containers greater than 119 gallons design capacity which are received at CHSI may be designed to meet a DOT performance specification under 49 CFR Part 178/179, or may be non-DOT or DOT-exemption bulk packaging. Examples of containers with a design capacity of greater than 119 gallons include tank trucks, vacuum trucks, tote tanks, flex bins, intermodal containers and roll-offs.

Under Subpart CC, the Level 1 and Level 2 inspection requirements (e.g., inspections, no air monitoring, etc.) for DOT containers, Non-DOT containers and DOT-exemption containers are identical. Therefore, the inspection requirements that apply to Level 1 and Level 2 containers greater than 119 gallons are:

(A) The container will be visually inspected within 24 hours after a non-RCRA empty container is accepted at the CHSI facility. The inspection shall be conducted to ensure that the container is equipped with a cover and closure devices that form a continuous barrier over the container openings such that when secured there are no visible holes, gaps or other open spaces into the interior of the container. The inspection will be conducted as part of the facility's normal waste receiving procedures (i.e., at the same time as the facility's conformance testing). Documentation of the visual inspection is not required.

(B) Any container in storage for more than one year from date of receipt shall be visually re-inspected.

If a defect is detected during an inspection, the first effort at repair must be made within 24 hours of inspection and completed as soon as possible but no later than five (5) calendar days from receipt. If the repair cannot be completed with 5 days, then the waste must be removed from the container or the container must be over packed in a compatible DOT salvage drum.

In addition to these inspection requirements, additional requirements apply to containers that are greater than 119 gallons capacity. These additional requirements depend on type of packaging and whether the hazardous waste within the container is "in light material service". These additional requirements are discussed below.

DOT Packaging Greater Than 119 Gallons

Containers of hazardous waste that have a design capacity of greater than 119 gallons, that operate "in light material service", and that meet a DOT design specification in 49 CFR 178/179 are subject to the Level 1 inspection, filling/emptying, and opening/closing requirements described in Level 1 Emission Control Standards for Containers and Containers Between 26 and 119 Gallon Design Capacity described above. In addition, the following requirements apply:

(A) Waste transfer operations involving containers requiring Level 2 controls must be conducted to minimize exposure of hazardous waste to the environment. Acceptable loading procedures include, but are not limited to, the use of submerged fill, vapor balancing, or vapor recovery techniques.

(B) If a container is downgraded to Level 1 controls because it is not operating "in light material service", the facility must keep a copy of the procedure that was used to determine that the container is not in light material service. For the purposes of complying with the requirement, such determinations shall be made during the initial waste pre-qualification process based on information provided by the generator.

Non-DOT and DOT-Exemption Packaging Greater Than 119 Gallons

Containers of hazardous waste that have a design capacity of greater than 119 gallons, that are used "in light material service", and that do not meet a DOT design specification in 49 CFR 178/179 (i.e., "non-DOT containers") or that are designed, manufactured and operated pursuant to a DOT-exemption are subject to the Level 1 inspection, filling/emptying, and opening/closing requirements described in Level 1 Emission Control Standards for Containers and Containers Between 26 and 119 Gallon Design Capacity described above. In addition, the following requirements apply:

(A) Waste transfer operations involving containers requiring Level 2 controls (i.e., one that is operating "in light material service") must be conducted to minimize exposure of hazardous waste to the environment. Acceptable loading procedures include, but are not limited to, the use of submerged fill, vapor balancing, or vapor recovery techniques;

(B) If a container is downgraded to level 1 controls because it is not operating "in light material service", the facility must keep a copy of the procedure that was used to determine that the container is not in light material service. For the purposes of complying with this requirement, such determinations shall be made during the initial waste pre-qualification process based on information provided by the generator; **AND**

(C) Level 2 containers must operate with "no detectable organic emissions". Such containers must be checked (e.g., by PID, FID, or other instrument) for leaks at all container/closure interfaces. The leak detection test is required at the point of generation. CHSI need not conduct a leak test when such a container arrives at the facility, but would have to conduct the leak test when generating an outbound load of hazardous waste; **OR**

(D) Level 2 containers must operate as a "vapor-tight" containers. Such containers must be tested using EPA Method 27. The vapor-tight test is required prior to initial use of the container. CHSI need not conduct a "vapor-tight" test when such a container arrives at the facility but would have to ensure that such a container was tested within the previous 12 months prior to using the container for an outbound load of hazardous waste.

Lab Pack

The CHSI facility manages lab packs. These containers are considered to comply with Level 1 container controls provided that they are packed in accordance with the requirements of 49 CFR 173.12.

Waste Stabilization Activities

Under Subpart CC, waste stabilization activities (in containers) that involve hazardous waste with a VO concentration equal to or greater than 500 ppmv must be conducted using Level 3 air controls. Level 3 controls require that the process be conducted inside an enclosure that is vented to an air pollution control system.

CHSI is authorized to conduct hazardous waste stabilization activities in containers. However, in order to comply with Subpart CC, CHSI shall limit its stabilization activities to those hazardous wastes, which have a VO concentration of less than 500 ppmv. Stabilization of such waste is exempt from Subpart CC requirements. CHSI shall ensure that any waste to be treated using stabilization techniques has a VO concentration of less than 500 ppmv based on the GWMPS (Generator Waste Material Profile Sheet) information provided to CHSI by the original generator of the hazardous waste stream.

CC.10 Record Keeping Requirements 724.989

All Subpart CC records shall be kept for a minimum of three (3) years. Design information, equipment certification information, and design analyses of performance tests shall be kept in the facility records for the life of the equipment. Unit specific record keeping requirements are provided below and as summarized in **Table 6.3.**

Tanks

The following information shall be recorded for those tanks subject to Subpart CC at CHSI:

(A) Tank identification number, or other unique identifier;

(B) A record of each inspection required by 40 CFR 265.1085, including:

(C) For a fixed roof Level 1 control tank, the MOVP determination performed in accordance with 40 CFR 265.1085 (At this time, all tanks subject to Subpart CC at CHSI will comply with Level 2 controls).

(D) For an enclosure complying with Level 2 controls per 40 CFR 265.108(i), the most recent "Procedure T" verification calculations and measurements, and all records required for closed vent system and control device (At this time, CHSI does not operate any "enclosures" subject to Subpart CC).

(E) Information concerning units that are "unsafe to inspect and monitor" per 40 CFR 265.1085(1) or 265.1086(g):

(1) Identification numbers for units with covers that have been designated "unsafe to inspect and monitor"

(2) An explanation for each cover stating why the cover is unsafe to inspect and monitor

(3) A description of the plan and schedule for inspection/monitoring

(F) Units covered by the Benzene NESHAPS standards in 40 CFR Part 60 Subpart VV or 40 CFR part 61 Subpart V may elect to comply with those documentation requirements in lieu of the Subpart CC documentation requirements, to the extent the VV/V documentation duplicates the 40 CFR 265.1090 requirements. (CHSI will comply with the Subpart CC documentation requirements.)

Closed Vent Systems and Emission Control Devices

The following information will be maintained for the closed vent systems and emission control devices subject to Subpart CC (i.e., the closed vent systems and the granular activated carbon units associated with the bulk storage tanks and the fuels dispersion and shredding systems):

(A) Signed and dated certification that the control device is designed to operate at a performance level documented by a design analysis as specified in (1) or by the performance test specified in (2), below:

(1) Design Analysis - If a design analysis is used, then the following design information specified in 40 CFR 265.1035(b)(4) must be documented and maintained:

(a) A list of information references and sources used in preparing the documentation
(b) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 41: Control of Gaseous Emissions" or other engineering texts acceptable to the Regional Administrator that present basic control device design information
(c) For carbon adsorption systems that do not regenerate on-site, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of the carbon bed, type and working capacity of the activated carbon used for the carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule

(d) A statement signed and dated by the owner/operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(e) A statement signed and dated by the owner/operator certifying that the control device is designed to operate at 95% efficiency or greater unless the total organic concentration limit of 40 CFR 265.1032(a) is achieved at an efficiency less than 95% by weight. Or the total organic emission limits of 265.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95% by weight. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(2) If performance testing is used, then the following design information specified in 40 CFR 265.105(b)(3) must be documented and maintained:

(a) A test plan, which includes the following:

* A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. Shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program
* A detailed engineering description of the closed vent system and control device including:

  Manufacturer's name and model number
  Type of control device
  Dimensions
  Capacity
  Construction material
* A detailed description of sampling and monitoring procedures, including sampling and monitoring locations, equipment to be used, sampling and monitoring frequency and planned analytical procedures for sample analysis

(b) All results and data from the performance test

(B) Design documentation and monitoring, operating and inspection information for each closed vent control system and control device shall be recorded and kept up-to-date. This information shall include:

(1) Description and date of each modification that is made to the closed vent system or control device design

(2) Identification of operating parameters, description of monitoring devices, and diagram of monitoring sensor location(s) used to comply with 40 CFR 265.1033(f)(1) and (2).

(C) On a semi-annual basis, the following information shall be recorded and maintained for all planned, routine maintenance of the carbon adsorption systems which results in the carbon system failing to reduce the total organic content of the inlet vapor stream by at least 95% by weight:

(1) A description of the planned events to be performed during the next 6-month period, including type of maintenance, planned frequency of maintenance, and length of maintenance period

(2) A description of the planned events that were performed during the pervious 6-month period, including the type of maintenance performed and the total number of hours during the 6 month period when the device did not achieve at least 95% removal efficiency due to planned maintenance.

(D) The following information shall be recorded and maintained for all unexpected malfunctions of the carbon adsorption systems which result in the carbon system failing to reduce the total organic content of the inlet vapor stream by at least 95% by weight:

1) Occurrence and duration of each malfunction

2) Duration of each period when emissions are fed into the carbon adsorption unit when the unit is not properly functioning

3) Actions taken during the malfunction period to restore the unit to its normal manner of operation

(E) Records of management of carbon removed from a carbon adsorption unit. Note, per 40 CFR 265.1088(c)(3)(iii), all carbon removed from the control devices shall be managed per the requirements of 40 CFR 265.1033(m) below regardless of the volatile organic concentration:

(1) Regenerated/reactivated in a Subpart X unit;

(2) Incinerated as a hazardous waste

(3) Burned in an industrial furnace or boiler

Containers

Containers using Level 1 or Level 2 controls do not require any record keeping, except in the case where a container is downgraded to Level 1 controls because it is not operating "in light material service". In such cases, CHSI will keep a copy of the procedures used to determine that the container is not in light material service.

CHSI does not intend to operate any containers in Level 3 service. Therefore, the record keeping requirements that apply to Level 3 are not applicable.

CC.11.Reporting Requirements

a. A written report is sent to the Regional Administrator within 15 days of the time the owner/operator becomes aware non-compliance due to wastes having VO concentrations exceeding the appropriate minimum values being placed into exempt tanks or where waste, requiring Tank Level 2 controls, is placed in a tank having only Tank Level 1 controls.

b. A semi-annual report shall be submitted to the Regional Administrator for any semi-annual period in which a carbon adsorption system is not maintained within 24 hours after the detection of breakthrough. This report is not required if no such events occurred during the six month period.

X. Miscellaneous Units

CHSI does not currently operate any Subpart X units, but there are two approved/not yet constructed Subpart X units. The units are the compactor in Unit 42 and the shredder in Unit 24. For both, the compactor and the shredder, a closed vent system and carbon adsorption system shall be operated at all times each unit is in use. The shredder will not be operated if the carbon adsorption system is not operating or collection drums/hoppers are not in place. The closed vent systems shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background, as determined by the procedures in 40 CFR 264.1034(b). The performance standard used to determine compliance is reduction of the total VO content of the inlet vapor stream by 95% by weight. The activated carbon shall be replaced with new carbon within 24 hours of when monitoring indicates the control device did not reduce the total VO content of the inlet vapor stream by 95% by weight.

Negative pressure shall be maintained in the closed vent system when operating. Periods of planned routine maintenance of the control device during which the control device does not meet the performance standard, shall not exceed 240 hours per year. If the control device malfunctions, it shall be corrected as soon as practicable (no later than 24 hours) after the occurrences in order to minimize excess emissions of air pollutants. Before a unit becomes operational, an initial leak detection check shall be conducted in accordance with 40 CFR 264.1034(b).

CHSI shall record monitoring and inspection data in the operating record and maintain those records for three years. This information shall be available to IEPA upon request. Each closed vent will include a flow indicator sensor, which shall be monitored hourly to provide a record of the vent stream flow. Records of the management of carbon (time in operation) including carbon changes shall be maintained. Daily readings of the FID test to demonstrate compliance with the performance standard shall be maintained. Records of routine maintenance (time) during which the control device does not meet the performance standard shall be maintained.

Closed vent system joints, seams and other connections shall be visually inspected annually, for defects, which could result in air emissions. A pressure measurement device will be installed on each closed vent system and inspected daily, when the unit is in operation, to verify that negative pressure is being maintained in the closed vent system when operating. Detectable emissions, shall be controlled as soon as practicable, but not more than 15 days after the emission is detected, or, if applicable, as allowed by 724.934(l)(3)(iii), no later than the scheduled routine maintenance. A first attempt at repair shall be made no later than 5 days after the emission is first detected.